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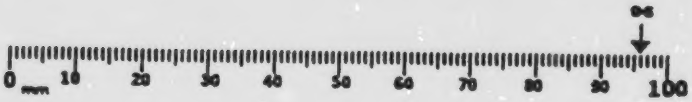

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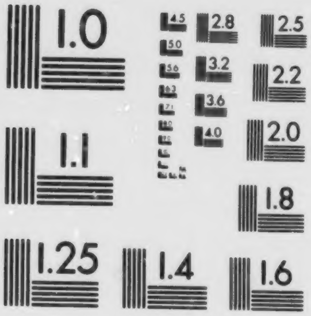

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Open File Report 6019

Kimberlites of the Attawapiskat Area, James Bay Lowlands, Northern Ontario

by

R.P. Sage

2000

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Kimberlites of the Attawapiskat area, James Bay Lowlands, northern Ontario

R.P. Sage

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ABSTRACT

Kimberlites of the James Bay region straddle the Attawapiskat River approximately 110 km west of James Bay. The kimberlites represent two ages of intrusion, Jurassic and Mesoproterozoic. The Jurassic kimberlites intruded Archean basement and a cover sequence of Paleozoic limestones, sandstones and siltstones. These kimberlites are hypabyssal facies with numerous xenoliths of the wall rock and all but one contain diamond. The kimberlite cluster is elongated in the northwest direction within and parallel with the geophysically defined Winisk River fault. This fault is a Proterozoic structure separating the Winisk Subprovince from the Sachigo Subprovince of the Canadian Shield. The kimberlites occur where this fault splays toward the east, just south of a prominent geophysically inferred northeast-trending diabase dike. These kimberlites were discovered by Monopros Ltd. in the late 1980s and continue to be tested for their diamond content.

The Jurassic age kimberlites display widely varying quantities of kimberlite indicator minerals even between closely spaced pipes. The kimberlites are relatively ilmenite-rich, chromite-poor intrusions that display considerable variation in indicator mineral chemistry.

In 1994, airborne magnetic surveys by KWG Resources Inc. – Spider Resources Inc revealed kimberlite intrusions that did not breach the Paleozoic cover rocks. Dating indicates that these intrusions are Proterozoic and emplaced during development of the Midcontinent Rift and Grenville Front. One of these Proterozoic kimberlites, Kyle Lake No. 1, contains a significant diamond content and has undergone extensive testing. The Kyle Lake No. 1 kimberlite displays extensive contamination with crustal granitic rocks. In contrast to the Early Jurassic kimberlites, the Proterozoic kimberlites appear more randomly distributed and lack any clearly defined structural control.

The potential to find additional kimberlite intrusions of both age groups is very good to excellent.

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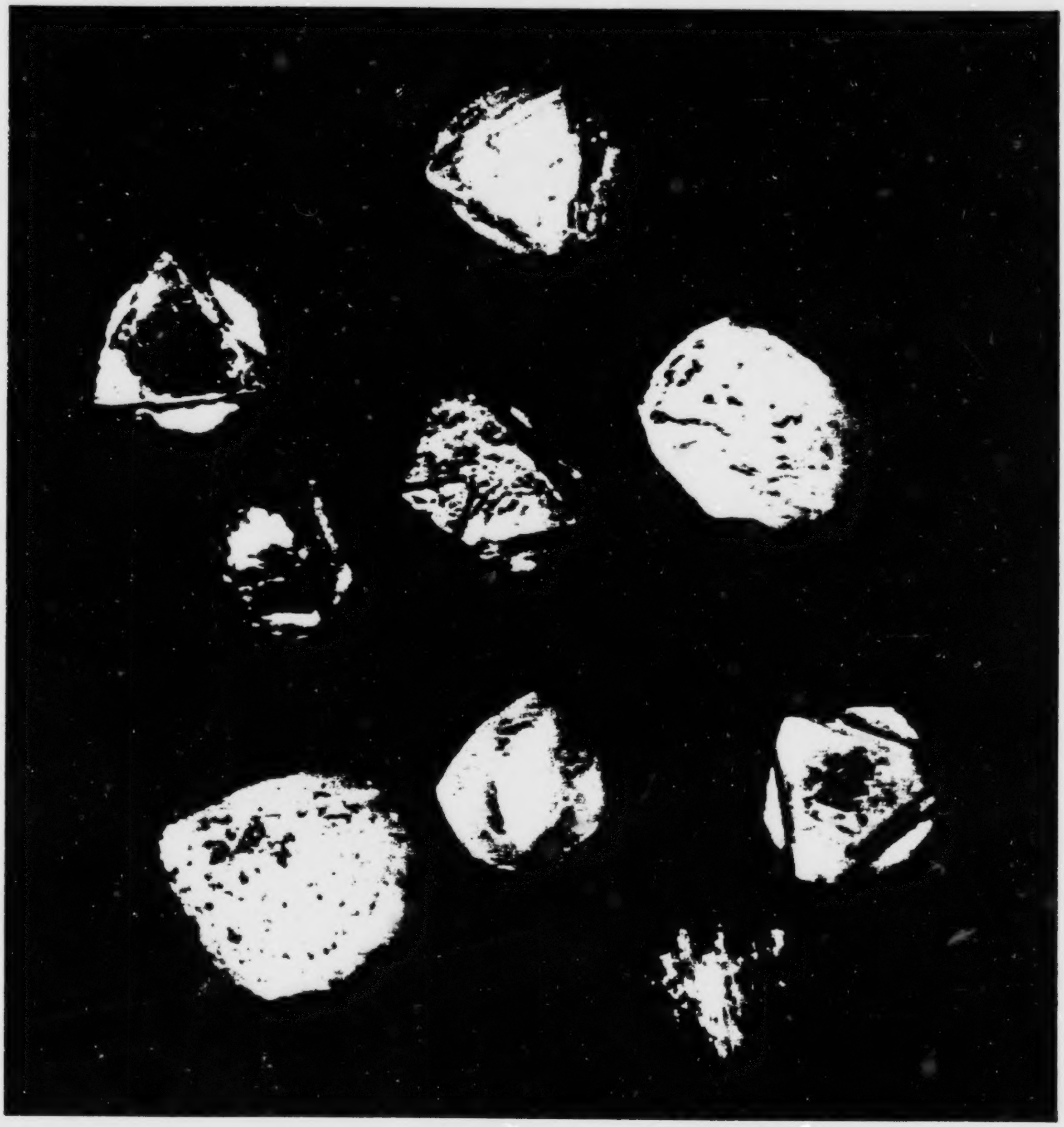

Frontispiece. Octahedral microdiamonds (<0.5 mm) from the Proterozoic Kyle Lake No. 1 kimberlite, James Bay Lowlands. Coloured stone is a synthetic from the diamond drill bit. Sample provided by Ashton Mining of Canada Inc. and KWG Resources Inc. – Spider Resources Inc.

Introduction

INTRODUCTION

In 1993, the Ontario Geological Survey (OGS) undertook a province-wide study of bedrock kimberlite occurrences within Ontario. The first part of the study was released in 1996 (Sage 1996). Work on the second half of project began in late 1995 when sample material became available. The focus of this study was to document the kimberlites within the James Bay Lowlands by providing a limited amount of microprobe data on kimberlite indicator minerals, brief petrographic descriptions and a synthesis of the structural setting and distribution of the pipes. As part of this investigation, a brief summary is presented of work by Selco Mining Corporation Limited in the late 1970s and early 1980s. Work by this company disclosed numerous intrusions that appear similar to kimberlite even to the point of containing a suite of indicator minerals. These intrusions, while superficially resembling kimberlite, are not kimberlite and do not contain diamond. In detail, the intrusions can fit a number of mafic to ultramafic rock classifications, dominantly tuffisitic breccias (Janse et al. 1986), however, as a group they are considered pseudokimberlites. There are more pseudokimberlites known in the James Bay Lowlands than kimberlites; it thus becomes an important issue in mineral exploration to recognize these distinctions when working in a region of high cost operation.

On the basis of proprietary geophysical data, the James Bay Lowlands likely hosts many more kimberlites and pseudokimberlites; its diamond potential must be considered high.

The reader should refer to Sage (1996) for a historical review of kimberlite geology and use of kimberlite indicator minerals in kimberlite exploration. This information will not be repeated here. An expanded discussion of indicator minerals (Sage 1996) will be included in this report to incorporate recent ideas on the topic.

LOCATION

There are two ages of kimberlite emplacement in the James Bay region, Early Jurassic and Mesoproterozoic. The Early Jurassic kimberlite event has created a northwest-trending cluster of kimberlite pipes crossing and extending southeast from the Attawapiskat River at approximately latitude 52°50′00″N, longitude 83°50′00″W. The cluster lies approximately 110 km west of the settlement of Attawapiskat opposite Ankimiski Island and 350 km north of Hearst. The Proterozoic kimberlites appear to be randomly distributed southwest and west of the Early Jurassic cluster. Access to the area is by helicopter or by aircraft landing on temporary landing fields established by companies exploring in the region. The region lacks roads or other infrastructure to support exploration efforts. Exploration requires the extensive use of helicopters to move drills, personnel and recover samples.

Figure 1.0 displays the location of the Attawapiskat kimberlites in northern Ontario.

ACKNOWLEDGMENTS

Samples were provided for this study by Monopros Limited, Ashton Mining of Canada Incorporated, Murgor Resources Incorporated and KWG Resources Incorporated – Spider Resources Incorporated.

Jonathan A. Fowler, Senior Vice-President and Don R. Boucher, Senior Exploration Geologist of Monopros Limited have been supportive of the OGS investigation of Ontario kimberlites since the start of project. The company has been generous with sample material. Neil D. Novak, Consulting Geologist; A.J.A. (Bram) Janse, Consulting Geologist; Don A. MacFadyen, Director and Consulting Geophysicist and Steve Munroe of KWG Resources Incorporated have been supportive and helpful throughout the project, providing data and samples from the James Bay region. Robert T. Lucas and Shawn M. Carlson of Ashton Mining of Canada Incorporated have provided information, advice and sample material throughout the study.

In the early stages of the preparing this report, Steve Pianosi provided technical support completing microprobe work and computer manipulation of data. All microprobe analytical work was done by, or under the direction of, Dave Crabtree, Geoscience Laboratories, Ontario Geological Survey. Computer support was provided by Douglas H. Sage, Brian Berdusco, Sara McIlraith and Steve Josey. John Ayer provided assistance using the Minpet and Grapher software and advice in interpreting some of the geochemical and mineralogical data.

Ann Wilson, District Geologist, Timmins, has been of great assistance in researching work completed in the James Bay Lowlands.

This project would not have been completed without the support of those involved in kimberlite exploration in Ontario.

PHYSIOGRAPHY

The region is noted for its low relief and large areas of wet marshy ground. Except for the areas along the larger rivers, the area is difficult to access.

FIELD PROCEDURES

Outcrops of kimberlite are very rare in Ontario and only two natural outcrops are known. One outcrop of the Victor pipe occurs along the Attawapiskat River and can be examined only at very low water levels (D. Boucher, Senior Exploration Geologist, Monopros Limited, personal communication, 1996). The second outcrop occurs on the Zulu pipe (D. Boucher, Senior Exploration Geologist, Monopros Limited, personal communication, 1998). The absence of outcrop prevents surface mapping and study is restricted to samples provided by the exploration industry. None of the pseudokimberlites of the Hearst and Sextant Rapids area are known to have outcrop. All core samples of the pseudokimberlite suite have been donated to the Survey by the Selco Mining Corporation or Esso Minerals Canada Ltd.

PREVIOUS WORK

Relatively little information has been released on the Attawapiskat kimberlites since their discovery by Monopros Limited in the 1980s. Moser and Krogh (1995) report briefly on a U/Pb study of lower crustal granulite xenoliths recovered from these pipes, but do not name the pipes from which they came. Schulze and Hetman (1997) prepared a brief report on mantle xenoliths in the Attawapiskat kimberlite pipes, but did not report from which pipes they obtain the mantle material. Moser et al. (1997) describe briefly the results and conclusions from an isotopic dating program on granulite xenoliths obtained from the Attawapiskat pipes. Kong, Boucher and Scott-Smith (1998, 1999) have prepared a brief and detailed description of the discovery of the Attawapiskat kimberlites and their geology. Kong, Boucher and Scott-Smith (1999) provides an excellent history of the Attawapiskat discoveries and a brief, concise discussion of their geophysics and geology.

GENERAL GEOLOGY

The general geology of kimberlites has been previously discussed by Sage (1996, p.17-34) and the reader should refer to that document for general information. The bibliography provided by Sage (1996) lists most of the recent major published works on kimberlite geology.

KIMBERLITE INDICATOR MINERALS

Sage (1996) provided a brief summary of ideas concerning the use of kimberlite indicator minerals in kimberlite exploration. In some cases, clarification and expansion of some concepts is required. Portions of the discussion by Sage (1996) are repeated with new material inserted where appropriate. Comments by Shawn Carlson (Ashton Mining of Canada Inc., personal communication 1996) have assisted in updating this discussion. The indicator mineral geochemistry for the Attawapiskat kimberlites is presented in the appendix and the presentation of these data in a graphical form consistent with usage in the diamond exploration industry is given in Figure 1.1.

The term "indicator mineral" is self explanatory in the manner it is used for kimberlite exploration. The mineral is used to "indicate" the presence of kimberlite bedrock in samples of surficial materials eroded and transported from kimberlites and to indicate the diamond potential of the kimberlites themselves. Early uses of indicator minerals were as a tracer mineral to establish the possible location of an unexposed kimberlite pipe. Pyrope garnet was perhaps the most favoured mineral followed, in no particular order, by chrome diopside, chromite and picroilmenite (magnesium-rich ilmenite). As the study of inclusions in diamond advanced, it became apparent that particular garnet compositions (high chrome - low calcium) and certain chromite compositions (greater than 61% Cr_2O_3) were favourable for the preservation of diamond. Garnets and chromites displaying these compositional characteristics are assumed to be favourable to preserving diamond since they should be in chemical equilibrium. To find garnet and chromite displaying these compositional traits suggests they came from a host favourable to hosting diamond.

Therefore, the term "indicator mineral" has two uses in diamond exploration. The first is as a tracer in alluvium to find a hidden kimberlite and the second is as a predictor as to the favourability of the kimberlite to provide an appropriate environment for diamond preservation. A more lengthy discussion of "indicator mineral" has been provided by Sage (1996, p.34-36).

In using indicator minerals to establish the presence of kimberlite, one should examine the mix of kimberlite indicator minerals rather than individual minerals. Chromite, ilmenite and chrome diopside recovered from alluvium all have severe limitations in predicting the presence of kimberlite when used by themselves. Other than diamond itself, a high-chrome, low-calcium pyrope garnet is perhaps the best indicator of the possible presence of a kimberlite. In using garnet, chromite and ilmenite from a known kimberlite to predict the diamond preservation potential, one should become familiar with the limitations or exceptions to the accepted rules governing such predictions.

As with the first report on Ontario kimberlites (Sage 1996), an effort was made to analyze a minimum of 200 garnet grains and 40 chromite, ilmenite and clinopyroxene grains from each kimberlite occurrence. Ten to 15 olivine grains were also selected for analysis even though their value as an indicator in Ontario may be very limited. One may compare this ideal with the results that appear in the appendix to this report. Garnet is not particularly abundant in most of the Attawapiskat pipes and few pipes have oxide phases in roughly equal proportions. The oxide phases in some kimberlite pipes can be almost exclusively ilmenite while others are almost exclusively chromite. In order to obtain these objectives, the author attempted to mount 225 to 250 garnet grains and 75 chromite, ilmenite and clinopyroxene. In the absence of the octahedral form for chromite or leucoxene coating for ilmenite, it was often difficult to rapidly separate these two important oxide phases. Olivine often displayed a parting resembling cleavage and a complete spectrum of colour from dark green to colourless and, thus, in some cases, can be confused with pyroxene. Extreme variations in the volume of indicator minerals present, combined with broad compositional differences between closely spaced kimberlite pipes, indicate that observations made on any given pipe may not apply to an adjacent pipe. Since the indicator minerals are of mantle origin, there is the implication of a highly variable heterogeneous mantle source area or an emplacement process that is causing mineralogical segregation.

Garnet

Garnet is perhaps the most important indicator mineral and commonly occurs as inclusions in diamonds. It is relatively common in kimberlites and in mantle xenoliths found in kimberlite. It is a resistant mineral and can travel a great distance from the source and forms clearly identifiable dispersion trains. Studies of garnet inclusions in diamond have demonstrated that these garnets have distinctive high-chrome, low-calcium chemistry. Since the diamond and garnet inclusions are assumed to have crystallized in chemical equilibrium, the presence of garnet compositions similar to those found in garnet inclusions can be interpreted as favourable for the presence of diamond.

Dawson and Stephens (1975) prepared a 12 member garnet classification in which 9 of the 12 groups occur in kimberlite. Of these 12 groups, group 10 is common as inclusions in diamond (Dawson 1980, p.97). Group 10 reflects a dunitic (harzburgite) paragenesis characterized by low-calcium chrome pyrope, high-magnesium olivine (Fo_{92-94}), high-chromium spinel (>60% Cr_2O_3) and high-chromium enstatite [$Cr/(Cr + Al) = 0.20$ to 0.40] (Dawson 1980, p.70). Dawson (1980, p.70), also describes kimberlitic garnets of group 9 as being of lherzolite paragenesis and consisting of chrome diopside, low-chromium enstatite and olivine (Fo_{92}). He mentions that group 11 garnets can be present in kimberlite (Dawson 1980, p.70) and represent a wehrlite (olivine + clinopyroxene) paragenesis consisting of diopside and olivine (Fo_{92}). Group 3 eclogite garnets display a wide range of CaO compositions, 3 to 14%, together with clinopyroxenes that display a wide range in Na_2O contents (1.4 to 6.9%) (Dawson 1980, p.70). Additional schemes of garnet classification have been prepared by Danchin and Wyatt (1979) and Jago and Mitchell (1989) but the simplicity of the Dawson and Stephens (1975) classification has resulted in it being the most widely used classification system in kimberlite and/or diamond exploration, even though it does not conform strictly with the garnet groupings established by Dawson and Stephens (1975).

In using the Cr_2O_3 versus CaO binary plot, the high-chrome, low-calcium portion on one side of the 85% line is commonly referred to as G 10 and the other side of the 85% line representing higher calcium contents is referred to as G 9. The terms "G 10" or "G 9" refer to Dawson and Stephens (1975) garnet classification scheme and their garnet groups 9 and 10 which have been correlated with harzburgite and lherzolite peridotite rocks. Dawson and Stephens (1975) define group 10 as being high in MgO and this element is ignored on the binary chrome-calcium plot. Group 11 is presented as having high chrome, high calcium and high titanium. Titanium is not used on the binary plot and group 11 garnets could plot as group 9 and, in some cases, as group 10 on the binary Cr_2O_3 versus CaO diagram. In using the binary Cr_2O_3 versus CaO binary plot to establish the presence of group 10 (G 10) and group 9 (G 9) garnets in a sample, it should be noted by the interpreter that such plots do not necessarily place garnets into their proper groupings as established by Dawson and Stephens (1975).

The recognition of the unique composition (high chrome – low calcium) of peridotitic garnets in association with diamond has been used by Gurney (1984) and Gurney and Moore (1991, 1993) to develop a binary Cr_2O_3 versus CaO plot useful in classification of garnet for diamond exploration (*see also* Sage 1996, Figure 3a). In P-type diamonds, the paragenesis is garnet harzburgite, chromite harzburgite and garnet lherzolite (Gurney and Moore 1993). The harzburgite peridotites are depleted in calcium due to the absence of a calcium-bearing phase (diopside) in the modal mineralogy. This feature indicates calcium undersaturation resulting in rocks of low bulk rock calcium content (Gurney and Moore 1993). A subcalcic garnet could not occur in a harzburgite if a calcium-saturated phase were present.

With the addition of calcium-saturated clinopyroxene to the rock mode, the rock becomes a lherzolite and the garnet compositions shift markedly since the garnet has developed in the presence of a calcium saturated phase. This shifting of the bulk rock calcium content provides a means of distinguishing harzburgitic from lherzolitic garnets since both rock compositions are favourable towards similar high chrome contents. These two fields are separated by an 85% line on a binary Cr_2O_3 versus CaO plot which has been placed in a position to exclude all known lherzolitic garnets from the Kalahari Craton, South Africa (Gurney and Moore 1991). This diagonal line separates subcalcic (G-10) garnets from the calcium saturated (G-9) garnets and was defined by Gurney (1984) and Gurney and Moore (1991) on the basis that 85% of the peridotitic garnets enclosed within diamond plot within the subcalcic (G-10) field and the remainder in the lherzolite (calcium saturated) field (G-9).

While garnet lherzolite is most common in mantle xenoliths, it is not a major component of the diamond inclusion suite (Gurney and Moore 1993). This relationship is fortunate since there is no way to subdivide or separate diamond-bearing from barren garnet lherzolite. It thus becomes important to discriminate between lherzolitic garnet and harzburgite garnet (Gurney and Moore 1993). It is also important to recognize that peridotitic garnet included in diamond may be of different composition than the garnet occurring in the peridotite xenoliths within the same pipe; e.g., Finsch pipe, South Africa (Gurney 1984). The presence of subcalcic (G-10) garnets does not prove the existence of associated diamond. Subcalcic (G-10) garnets are found at the Zero kimberlite pipe, Kurum Province, South Africa (Shee et al. 1989); Le Tac kimberlites, Quebec (Mouchakkaa 1994); ultramafic lamprophyres, Yilgarn Craton, Western Australia (Hamilton and Rock 1990); and in some Kimberly kimberlites, western Australia (Lucas et al. 1988) but diamond is absent. In the case of the Zero kimberlite pipe, Shee et al. (1989) attribute the lack of diamond to the likelihood that at the time of emplacement, the site was at the craton margin and characterized by high heat flow. This high heat flow would destroy the mantle root and any diamond that may be present.

The lower portion of the Cr_2O_3 versus CaO plot for garnets can be interpreted to represent eclogitic garnet compositions. The pyrope garnet is associated with omphacite pyroxene in eclogite and this pyroxene consists of a solid solution of augite, acmite and jadeite. The presence of calcium-saturated augite in widely varying proportions would create calcium saturated garnet in widely varying proportions in an equilibrium situation. It is for this reason that the eclogite field on Figure 3a (*see* Sage 1996) varies from low to high calcium contents. Chrome is not concentrated in rocks or minerals of high alkali metal content (acmite and jadeite) and it can be anticipated that the chrome content in eclogitic garnet is low. Gurney and Moore (1991) place an arbitrary horizontal line at approximately 2 weight % Cr_2O_3 on a Cr_2O_3 versus CaO binary diagram to isolate a field for eclogitic garnet. This arbitrary horizontal line separates eclogitic and megacrystic garnets (<2 weight % Cr_2O_3) and peridotitic garnets (>2 weight % Cr_2O_3) (Gurney and Moore 1991).

Diamonds are derived from group 1 eclogites which are defined as having Na_2O greater than 0.07 weight % and a peridotite source (harzburgite, lherzolite, etc.) (Gurney and Moore 1991). McCandless and Gurney (1989) had earlier distinguished group 1 from group 2 eclogites using greater than or equal to 0.09 weight % Na_2O and greater than or equal to 0.08 weight % K_2O in clinopyroxene. However, by lowering the Na_2O contents to greater than or equal to 0.07 weight %, nearly all diamond-bearing eclogites can be classified as group 1. Similar sodium contents can be present in megacrystic garnets, but these garnets display igneous trends with higher levels of titanium and constant calcium contents with respect to group 1 eclogite (Gurney and Moore 1991). The first to recognize that garnet, in association with diamond-bearing eclogite, displays elevated Na_2O ($\geq$0.07 weight %) was Sobolev and Lavrent'yev (1971). Later, Danchin and Wyatt (1979) observed that these garnets also displayed elevated TiO_2 (Gurney and Moore 1993, p.158; *see also* Sage 1996, Figure 3b). The relationship of Na_2O to TiO_2 is not without exceptions. At the Star mine, South Africa, one half of the eclogite garnets have less than 0.07 weight % Na_2O and all are low in TiO_2 (Gurney and Hatton 1989). Schulze (1995, p.16) reports that garnets from the chrome-poor megacryst suite also contain significant Na_2O contents which satisfy the criteria for ecolgite garnet of group 1. Schulze (1995, p.16) uses a diagonal line on a Na_2O versus TiO_2 binary plot to separate TiO_2-rich megacrystic garnets from eclogitic garnets (*see also* Sage 1996, Figure 3b). Within this study, where indicator minerals are recovered from concentrates or derived from crushed core, it is difficult, if not impossible, to determine if the garnets are truly eclogitic. The garnet analytical data for the Attawapiskat area kimberlites is presented in the appendix and the reader can generate Na_2O versus TiO_2 plots applying their own criteria.

Griffin and Ryan (1995, *see* references listed within) have used proton probe data and modeled the compositions of garnet-olivine pairs in mantle xenoliths to calculate geothermal gradients and lithospheric thickness estimates in addition to using the data for Ni-thermometry. This new use of garnet geochemistry can then predict whether mantle conditions were favourable for diamond formation and preservation. On a Cr_2O_3 versus CaO plot, it can be observed that a large number of garnet grains have a chemistry favourable for diamond preservation, however, Ni-thermometry on garnet-olivine pairs from the same body indicate whether mantle temperatures were appropriate for diamond formation and/or preservation regardless of favourable garnet chemistry. The Zero kimberlite pipe, South Africa is a good example of a kimberlite displaying favourable garnet geochemistry, but lacking diamond due to high mantle temperatures (Shee 1984).

Chromite

Chromite is the second most important indicator mineral in diamond exploration after garnet but it does have some limitations. Its use can depend on whether it is present in the target pipe(s) and its stability in the weathering process. The geochemical nature of chromite is such that compositions unique to kimberlite may not exist.

As with garnet, the importance of chromite in diamond exploration has been established through research on inclusions in diamond. Sobolev (1971), Lawless (1974) and Zhenxin and Jianxiong (1980) originally undertook the study of compositions of chromite inclusions in diamond. Chromite inclusions in diamond have a high chrome and magnesium content (Fipke 1989; Fipke, Gurney and Moore 1995; Gurney and Moore 1993; Schulze 1995; McClenaghan et al. 1993). McClenaghan et al. (1993) indicates that the chromite chemistry of inclusions in diamond display a MgO content greater than 12% and up to 17%. The chromium content of chromite inclusions in diamond is approximately 61% or more (Fipke 1989; Fipke, Gurney and Moore 1995; Gurney and Moore 1993). This high chromium content can serve to distinguish a potential kimberlite source from other sources. At lower Cr_2O_3 contents, the chromites may still have a kimberlite source, but the compositions can no longer be considered unique to a kimberlite source. Sage (1996) used a field of chromite compositions unique to chromite diamond inclusions as outlined by Schulze (1995). This study uses the field of chromite compositions for diamond inclusions outlined by Fipke, Gurney and Moore (1995). Since the field outlined is based on the composition of chromite included in diamond, the assumption is that such a chromite should be in chemical equilibrium with diamond and the chromite source should offer a positive indication of diamond preservation. These diagrams should be used with some caution as Afanasiev et al. (1998) have described a number of ultramafic intrusions which produce chromites with a chemistry that plots in the inclusion field of diamond. Afanasiev et al. (1998) report that the only way to distinguish these chromites from those obtained from kimberlite is on grain morphology. They do not cite the morphological criteria (Afanasiev et al. 1998).

As with garnet, use of chromite data requires caution. Schulze (1995) has pointed out that, in some kimberlite pipes, the field of chromite xenocryst compositions will overlap with the field of chromite forming inclusions in diamond (i.e., Robert Victor kimberlite pipe). However, at the Finsch kimberlite pipe, the overlap in compositions is not strongly developed and, at the Orapa kimberlite pipe, there is no overlap in the fields of chromite xenocryst and inclusion compositions (Schulze 1995). The chromites external to diamond, as in the case with garnet, may have re-equiliberated shifting compositions away from the chromite in the diamond inclusion field. The use of chromite compositions obtained from indicator mineral dispersion trains and kimberlite samples may, therefore, not provide a true indication of diamond potential of the pipe from which the material came.

Griffin, Ryan and Gurney (1994) summarized the geochemical differences between Group 1 and Group 2 kimberlites and lamproite. They propose that Group 1 kimberlite chromites and xenocrystic chromites are derived from disaggregated dunites, harzburgites and lherzolites and Group 2 chromites represent a magmatic trend. Since Group 2 kimberlites are restricted to the South African craton, the interpretation as to the origin of chromite in Group 1 is relevant to the kimberlites of the Attawapiskat area. Based on the criteria of Mitchell (1994) the kimberlites of the Attawapiskat area would fall into Group 1.

Ilmenite

Ilmenite is of some interest in exploring for and evaluating diamond potential, but is not as useful as either garnet or chromite. This is a function of the fact that it rarely occurs as inclusions in diamond and it cannot be assumed to have formed under the same physical and chemical conditions as diamond (Schulze 1995; Meyer 1987). Meyer (1987) states, on the basis of very limited data, that kimberlite ilmenite megacryst compositions are similar to those found in rare ilmenite inclusions in diamond. McCallum and Vos (1993) have determined that most kimberlite ilmenites are non-magnetic, unlike most crustal ilmenites, which are paramagnetic or magnetic. Thus, kimberlite ilmenites can be separated from crustal ilmenites in a heavy mineral population on the basis of their magnetic properties.

Kimberlite ilmenites are characteristically high in MgO and, to a lesser extent, Cr_2O_3. The MgO values typically range from 4 to 15%, but can reach 20% and chromium contents may approach 2% (McClenaghan et al. 1993; Schulze 1995; Mitchell 1973). Dawson (1980, p.77-79) reports that within an individual kimberlite pipe there may be a considerable variation in the MgO content of ilmenite. The relatively high MgO and Cr_2O_3 contents are atypical of crustal ilmenites, which tend to be poor in these elements. McClenaghan et al. (1993) considered ilmenites with less than or equal to 4% MgO as originating from a non-kimberlitic source in their study of alluvial kimberlite indicator minerals in the Kirkland Lake, Ontario area. Schulze (1995) considers the ilmenites found in kimberlites to be from two fundamental sources.

1. Most macrocrystic or megacrystic ilmenites in kimberlite throughout the world are members of the chrome-poor megacrystic suite and probably coexisted with a magma at the time of incorporation into the kimberlite and may be related to kimberlite.

2. Other ilmenites are xenocrystic and include metasomatized peridotites such as the "Granny Smith" suite of clinopyroxene–ilmenite–phlogopite (Boyd, Dawson and Smith 1984) and MARID suite (mica–amphibole–rutile–ilmenite–diospide) xenoliths (Dawson and Smith 1977).

Using a triangular plot of hematite (Fe_2O_3), ilmenite ($FeTiO_3$) and geikielite ($MgTiO_3$), Haggerty and Tompkins (1983, p.298) outlined a field for ilmenite compositions occurring in kimberlite (*see also* Sage 1996, Figure 3d). This field of compositions is not exclusive to kimberlites and some ilmenites from alkaline basalts, alnoites, basanites and carbonatites may plot within this field close to the $FeTiO_3$ – $MgTiO_3$ join (Mitchell 1986, p.173; Gasper and Wyllie 1983). The plot, however, can be used to determine if an ilmenite composition can be found within a kimberlite, but it cannot be used to state categorically that it originated in a kimberlite.

The reader should refer to Mitchell (1986), Dawson (1980), Haggerty (1975, 1984, 1989), Haggerty and Tompkins (1983), and Pasteris (1980) for additional data and discussion on kimberlite ilmenites.

Ilmenite compositions are currently being used to measure the oxidation state of kimberlite magma. An oxidized magma would encourage oxidation of diamond (Haggerty 1989, p.697; Fipke 1989; Fipke, Gurney and Moore 1995; Schulze 1995). This assumes a genetic link between ilmenite and the host kimberlite. An indication of this oxidation state is the relative proportion of Fe_2O_3 in the ilmenite. Schulze (1995) reports that reduced (low Fe_2O_3) ilmenites rich in Cr_2O_3 and MgO in association with diamond are poorly documented in the literature (*see* Gurney 1989, p.956 for additional discussion). In theory, proximity to the Fe_2O_3 apex of the Fe_2O_3–$FeTiO_3$–$MgTiO_3$ diagram indicates a more oxidized ilmenite and presumably the host kimberlite. Schulze (1995) concluded that the broad range of Fe_2O_3 compositions found in ilmenite cores do not reveal the oxidation state of the host kimberlite magma. When using mineral concentrates or crushed samples, one does not really know where one is within the grain with respect to original core or rim. Worldwide, the rims on ilmenite grains are commonly more MgO-rich than the cores and most likely provide the information required to interpret the state of oxidation of the host magma (Schulze 1995). In completing analyses of ilmenite from concentrate, alluvium and crushed rock, it can be assumed that most if not all analyses will be of ilmenite cores and may not represent the oxidation state of the host kimberlite from which they originated. Fipke (1989) has stated that ilmenite with low Fe^{3+}/Fe^{2+} is associated with higher diamond contents than ilmenite with higher Fe^{3+} contents. Fipke (1989) has also stated that diamonds are not found in kimberlites containing ilmenite with a high Fe^{3+} content.

The determination of the oxidation state of ilmenite is sometimes interpreted from the Cr_2O_3–MgO parabola (Haggerty 1975). However, this diagram does not directly use Fe_2O_3 and, as such, only inferences can be made as to the state of oxidation (*see also* Sage 1996, Figure 3e). In theory, the less reduced kimberlites should contain more Ti and Mg shifting compositions to higher chrome and titanium contents (Schulze 1995; McCallum and Vos 1993, p.132). The presence of diamond is thus correlated with high concentrations of MgO and Cr_2O_3 implying lower Fe^{3+}/Fe^{2+} ratios in the ilmenite macrocrysts and a reducing environment (Haggerty 1991; Doden 1997).

While the oxidation or reduction model is simple and could provide much needed information on diamond potential, there are, in reality, many exceptions and the model requires more investigation before it can be applied with any level of confidence. Schulze (1995) reports that the diamond-absent oxidized Iron Mountain kimberlite, Wyoming, is similar in oxidation state to the nearby Kelsey Lake kimberlite, Colorado, which has low to moderate diamond content. In contrast, the reduced Hamilton Beach kimberlite, Kentucky, does not contain diamond (Schulze 1984).

Ilmenite is rare as an inclusion in diamond (Schulze 1995; Meyer 1987) and, as a consequence, it has a more limited use in implying conditions for diamond preservation. Its absence as an inclusion suggests the possibility that most ilmenite in kimberlite formed in the absence of diamond. A total of 21 ilmenite inclusion analyses have been compiled (Table 1.1) and plotted to illustrate ilmenite compositions useful in kimberlite exploration (Figure 1.2). Ilmenite inclusions for which chrome was not determined (Sobolev et al. 1998) were not included in this compilation. The tabulated ilmenite compositions indicate two distinct compositional groupings. One group has relatively low MgO and Cr_2O_3 contents (commonly less than 1%) and a second group with a relatively high MgO content (picroilmenite) (commonly 10% or greater) and high Cr_2O_3 (Figure 1.2). Since both compositional groupings occur enclosed in diamond, it can be concluded that ilmenite can be in physical and chemical equilibrium with diamond over a broad range of compositions. Diamond exploration often focusses on the presence or absence of high magnesium ilmenite (picroilmenite), however, on the basis of limited compositional data on ilmenite inclusions, ilmenites with relatively low MgO contents cannot necessarily be dismissed as having no significance in diamond exploration. The low magnesium ilmenites plot outside the field of kimberlite ilmenites on a Fe_2O_3–$FeTiO_3$–$MgTiO_3$ diagram and the high magnesium ilmenites plot in the reduced region on a Haggerty (1975) parabola. The existing database is too limited to form more definitive interpretations, but it does indicate the need for caution in using ilmenite compositions as a means of identifying the presence of kimberlite.

The vast majority of the ilmenite obtained from crushed kimberlite samples reported by Sage (1996) is magnesium-rich, however, Buzz No. 1 does contain some ilmenite of less than 4% MgO. There also appears to be variation in MgO contents of ilmenite between closely spaced kimberlite pipes even though the ilmenites remain relatively rich in magnesium. The ilmenite compositions for the Attawapiskat kimberlites appear to be magnesium-rich even though there is some variation between individual pipes (*see* appendix to this report for data).

Chrome Diopside

Chrome diopside is the fourth and least useful indicator mineral commonly used in kimberlite exploration. It is generally a proximal mineral since it does not stand up well to weathering and transport in the Ontario environment. Presently, its chemistry cannot be used to predict the presence or absence of diamond in the host kimberlite. Its density and distinctive green colour make it easy to collect in heavy mineral concentrate and pick for analysis. McClenaghan et al. (1993) classified kimberlite chrome diopsides as containing 1% or more Cr_2O_3 and Fipke (1989) classified the diopsides found in kimberlite as chrome rich (>0.5% Cr_2O_3) or chrome poor (<0.5% Cr_2O_3). Discriminating between chrome-rich pyroxenes originating from a kimberlite source and those from other sources is difficult, if not impossible. For example, McClenaghan et al. (1993) cites the work of Duke (1986), which identified the presence of chrome diopside with up to 1.3% in the Dumont Sill, located east of Kirkland Lake, Ontario, as a means to establish limits on chrome content of clinopyroxenes in kimberlite. Bedrock analytical data on clinopyroxenes from kimberlites within the region suggests it is impossible to establish upper and lower limits on chrome contents in kimberlite derived clinopyroxenes (Sage 1996). Other mafic to ultramafic complexes occurring in the region may also provide chrome-rich diopside to the alluvium complicating the search for kimberlite pipes known to occur within the area. Chrome diopsides should be used in conjunction with other kimberlite indicator minerals in attempting to establish kimberlite indicator mineral trains in alluvium. Chrome diopside in alluvium by itself, should not be used to establish the presence of a kimberlite pipe.

Use of Indicator Minerals to Locate Kimberlite

Kong, Boucher and Scott-Smith (1999) present a good review of the use of indicator minerals to identify target areas in the Attawapiskat region for kimberlite exploration. The extensive wet marshy ground in this region restricted sampling of alluvium to streams and rivers.

Sampling in the region started on the Kenogami River in 1984 and kimberlite indicator minerals were identified (Kong, Boucher and Scott-Smith 1999). In 1985 and 1986, extensive sampling was undertaken between the Kenogami River and the Ekwan River and ilmenite of "kimberlitic" composition was found in the Attawapiskat River, but no indicators were obtained from the Ekwan River (Kong, Boucher and Scott-Smith 1999). Detailed sampling along the Attawapiskat River in 1987 uncovered abundant kimberlite indicators, which were traced back to a possible source area. Detailed magnetic surveys flown at 250 m spacing were then completed to identify potential targets (Kong, Boucher and Scott-Smith 1999).

Kimberlite indicator minerals in a dispersion train were traced 375 km in the up-ice direction to their source area (Kong, Boucher and Scott-Smith 1999). It was noted that indicator minerals have been concentrated in beach deposits created by the post-glacial Tyrrell Sea and that these samples would give results not directly indicative of kimberlite sources (Kong, Boucher and Scott-Smith 1999).

Chapter 1.
Kimberlites of the Attawapiskat Area

1.1. SAMPLING METHODS AND SAMPLE PREPARATION

Monopros Limited supplied samples from the Early Jurassic kimberlites found near the Attawapiskat River for this study. The initial sample material consisted of a approximately 3 to 5 kg of core chips, which were processed in the laboratory of the Ontario Geological Survey for indicator minerals. For approximately half the pipes, where the volume of indicator minerals was low, 4 to 5 kg of additional material was obtained from Monopros Limited. This additional material consisted of a less than 1.0 mm size fraction of heavy mineral concentrate, which was processed in the Ontario Geoscience Laboratory for indicator minerals. One piece of core, approximately 15 cm length, was obtained from each complex, except for Whiskey-1, to prepare thin sections.

Sample material for thin section study was obtained from KWG Resources Incorporated for all kimberlites found by the company, however, most of the core went for processing by caustic dissolution and sufficient material was not available for the study of indicator minerals found in most of their kimberlite discoveries. Ashton Mining of Canada Incorporated, former partner with KWG Resources Incorporated, supplied less than 0.5 mm rejected material from the MacFadyen No. 1 pipe and Kyle Lake No. 1. The Ashton Mining of Canada Incorporated material was used to obtain the indicator mineral suite described in this study.

For the study of pseudokimberlites, sample material in sufficient volume to test for indicator minerals was only available from anomaly I5-10 near Sextant Rapids. The material, consisting of friable core, for anomaly I5-10 was supplied by Murgor Resources Incorporated. Thin sections for the James Bay pseudokimberlites identified by Selco Exploration Corporation Limited were retrieved from the Royal Ontario Museum where they had been archived. These thin sections were, in part, prepared from sample material supplied by Selco Exploration Corporation Limited while the author was working on a study of the alkalic rock – carbonatite complexes within Ontario in the very late 1970s to very early 1980s. The remaining thin sections were donated to the Ontario Geological Survey by Dr. J. Pirie, former Exploration Manager, Esso Minerals Canada in 1989. The material provided to the author by Selco Exploration Corporation Limited was largely from pseudokimberlites in the Sextant Rapids area and the thin sections donated by Esso Minerals Canada were largely prepared from the pseudokimberlites of the Hearst area.

Selco Exploration Corporation Limited completed extensive electron microprobe analyses and geochemical work on the James Bay pseudokimberlites. In spite of considerable effort by the author to locate these data, they could not be located. Descriptions of these intrusions are therefore largely based on Assessment Records submitted to the Ontario Government at the time this work was done and the thin sections subsequently analyzed.

The sample preparation methodology has been reported by Sage (1996, p.46-49). The grain mounting for the electron microprobe analysis was changed during the late stages of this study. Instead of mounting on a glass slide, the grains were mounted in an epoxy plug approximately 2 cm in diameter. Mounting on a glass slide had a problem due to variation in grain size. For electron microprobe analysis, the surface of the slide had to be ground down to the level that would expose the smallest of the mounted grains. This resulted in considerable additional work, as a large portion of the larger grains had to be removed to expose adjoining smaller grains. The plug mount avoided this problem since the grains were mounted on a plastic surface that could be separated from the epoxy after curing. The grains, representing a range of sizes, all had one face on the plastic surface and, thus, minimal grinding was required to expose and polish the grains for examination and analysis. The glass slide will hold many more grains than the plug, but the saving in time make the epoxy plug version the better choice.

The author completed all steps in processing and picking the sample up to the point of electron microprobe analysis. Electron microprobe analyses were originally undertaken by S. Pianosi, under the direction of D. Crabtree, Microprobe Scientist, Geoscience Laboratories. Later, D. Crabtree completed all microprobe analyses.

1.2. REGIONAL STRUCTURAL SETTING

In the Attawapiskat region, there are Early Jurassic and Proterozoic kimberlites. Early Jurassic pseudokimberlites in the Hearst area may be coeval with the Early Jurassic kimberlites, however, the anomaly I5-10 intrusions in the Sextant Rapids area are Late Permian and their emplacement precedes the Early Jurassic kimberlite event. The Early Jurassic kimberlites are centred at approximately latitude 52°45'N, longitude 83°50'W. The term "pseudokimberlite" is used here to describe a broad group of rocks consisting of alnoite, carbonatite, alkalic diatremes and mafic breccia that superficially can appear similar to kimberlite.

The Early Jurassic kimberlites occur along the geophysically defined Winisk River fault trending approximately 325° (OGS 1991a, 1991b). The Winisk River fault separates the Sachigo and Winisk River subprovinces of the Superior Province. The 325° trend of kimberlite intrusions lies just north of the Severn–Frontenac Arch which trends at 315° (OGS 1991a, 1991b, 1991c). The Early Jurassic kimberlites occur where the Winisk River fault displays splaying in an east-west direction toward James Bay. The kimberlites occur just south of a northeast-striking, linear positive aeromagnetic anomaly interpreted as a diabase dike. A dike displaying this trend in the Michipicoten area is a Proterozoic olivine diabase (Sage 1994) and has a U/Pb age of 1142 ± 3 Ma (L.M. Heaman, University of Alberta, unpublished data, 1997). The diabase dike trend also appears subparallel to the trend of the Marathon swarm dated at about 1.9 Ga in age (Osmani 1991). The Winisk River fault is one of several regional structures that occur along the 325° trend through the northern part of the province, which hosts a number of kimberlite clusters (Figure 1.3). These dike trends can be observed on regional aeromagnetic maps (OGS 1991a, 1991b). Figure 1.3 also displays major regional structural trends within eastern North America with respect to kimberlite occurrences in Ontario.

The kimberlite distribution pattern is elongated northwest along the Winisk River fault (Figure 1.4) parallel to the northwest trend of Proterozoic rocks in the Sutton Inlier appoximately 120 km to the north. This northwest trend is also displayed by the Lac de Gras kimberlite field, Northwest Territories, which lies along the extrapolated 325° trend of kimberlite distribution observed in Ontario (Figure 1.5) (Sage 1996; Pell 1997). In the Lac de Gras, area a subordinate northeast-striking distribution pattern is also observed (Figure 1.4) and these northeast-striking trends are also present in Ontario. The kimberlites in the Cobalt – New Liskeard area along the Lake Timiskaming structural zone are controlled by northeast-striking cross-faulting (Sage 1996) and the pseudokimberlites in the Hearst area are controlled by the northeast-striking Gravel River fault. The Early Jurassic kimberlites near the Attawapiskat River are just south of the axis of the northeast-trending Cape Henrietta Marie Arch.

Within the Sachigo Subprovince, KWG Resources Inc. has identified Proterozoic kimberlites beneath Paleozoic cover. This distribution of Proterozoic kimberlites appears to be random, but restricted to the Sachigo Subprovince (Figure 1.6). The most intensely investigated Proterozoic kimberlite is the diamond-bearing Kyle Lake No. 1, which has a Rb/Sr geochronologic age of 1100 ± 40 Ma (L.M. Heaman, University of Alberta, unpublished data, 1996). This age indicates the Kyle Lake No. 1 kimberlite is coeval with the Midcontinent Rift (Lake Superior Basin), and the tectonic and/or alkalic rock magmatism along the Kapuskasing structural zone and the Grenville Front (Figure 1.4) (Paces and Miller 1993; Cannon 1994; Sage and Watkinson 1991). Extrapolation of the Trans-Superior tectonic zone (Figure 1.3) to the Attawapiskat area will pass through or close to the Kyle Lake No. 1 kimberlite. The Trans-Superior tectonic zone is a zone of deep crustal faulting that bisects the Midcontinent Rift (Sage 1978).

Pseudokimberlites equivalent or slightly older than the Early Jurassic kimberlites have been outlined in two areas of northern Ontario by the Selco Exploration Corporation Limited in the early 1980s. One of the two areas of pseudokimberlite emplacement is in the region of Sextant Rapids on the Albany River within the Kapuskasing structural zone. The intrusions occur where the northwest-trending zone (325°) of kimberlite intrusion crosses the Kapuskasing structural zone. The site is also where the northeast-striking Gravel River fault intersects with the Kapuskasing structural zone and along the northeast-trending crest of the Fraserdale Arch (Figure 1.3). The trend of the Gravel River fault is defined by mapping and regional aeromagnetic surveys (OGS 1991b). The anomaly I5-10 pseudokimberlite has a geochronologic (U/Pb) age of 235.6 ± 2.2 Ma (L.M. Heaman, University of Alberta, unpublished data, 1997). This age is not equivalent to any known kimberlite event in the province.

The second area of pseudokimberlite emplacement north of Hearst defines a crude northeast distribution possibly related to east of north-trending splays off the Gravel River fault (OGS 1991b). The pseudokimberlites in this area are centred around the Martison carbonatite. The intrusions occur northeast, northwest and southwest of the carbonatite body. Two pseudokimberlites in the Hearst area have been dated using the K/Ar method as 152 ± 8 Ma (425-12) and 180 ± 9 Ma (42J/6-12) (Reed and Sinclair 1991), and these ages are equivalent to kimberlite emplacement along the Lake Timiskaming structural zone (Sage 1996) and in the Attawapiskat area (this report).

The pseudokimberlites have been classified by Reed and Sinclair (1991; Janse et al. 1989) as alkaline diatremes, carbonatites and alnoites.

The Early Jurassic kimberlites occur in a region covered by approximately 250 m of Paleozoic cover overlain by thin Pleistocene till sheets which are, in turn, overlain by Holocene marine and coastal deposits (Kong, Boucher and Scott-Smith 1999). The till sheets consist of an upper brown to reddish-brown unit and a lower grey unit (Kong, Boucher and Scott-Smith 1999). The Paleozoic rocks consist of Silurian reef and bioherm deposits (Attawapiskat Formation) which have been upfaulted in the immediate vicinity of the Early Jurassic kimberlite cluster (Suchy and Stern 1993; Kong, Boucher and Scott-Smith 1999). The till and Holocene deposits covering the Early Jurassic kimberlites vary from 0 to 30 m in thickness (Kong, Boucher and Scott-Smith 1999). The Late Paleozoic to Mesozoic era was a time of extensive erosion and, since the kimberlites are of Jurassic age, they were likely emplaced under subaerial conditions (Johnson et al. 1991; Kong, Boucher and Scott-Smith 1999).

1.3. GEOPHYSICAL EXPRESSION

Regional and detailed magnetic surveys are the only geophysical method used to locate kimberlite in the James Bay region. The magnetic expression of the James Bay kimberlites is illustrated by Figures 1.7 and 1.8. The straight-sided isomagnetic contours on some of the patterns on Figure 1.7 is a contouring artifact and does not necessarily represent a true outline of the intrusion. The isomagnetic contours define positive anomalies with respect to the surrounding terrane even though, within individual intrusions, magnetic low areas may exist. The patterns represent oval to elliptical bodies from 200 to 400 m in diameter. Most patterns are relatively simple implying a single intrusive phase, but some intrusions such as Victor-1 (Figure 1.7) display a complex pattern with internal closure on isomagnetic contour lines. Detailed ground magnetic surveys have subdivided the Victor-1 intrusion into two parts: Victor-North and Victor-South (Kong, Boucher and Scott-Smith 1999). This implies the possibility that some intrusions are multiple phased emplacements. Alpha-North, Delta-1 and Tango may also represent multiphased emplacement (Figure 1.7). The isomagnetic contour pattern for MacFadyen-1 and MacFadyen-2 (Figure 1.8) suggests that they could be "blows" or linked intrusions along a northwest-striking kimberlite dike. A "blow" is an abrupt expansion of the dike, usually in the form of a breccia. The MacFadyen kimberlites occur along a linear trend in isomagnetic contouring of the magnetic data.

Of the 16 kimberlites identified by Monopros Ltd., 15 display positive magnetic anomalies ranging from 150 to 1200 nT (Figure 1.7; Kong, Boucher and Scott-Smith 1999). The exception is Uniform-1 which has a negative anomaly explained by strong remnant magnetization (–750 nT) suggesting it was emplaced at a different time (Kong, Boucher and Scott-Smith 1999).

The Proterozoic kimberlites all display a relatively simple circular isomagnetic pattern with the exception of Kyle Lake No. 3. The Kyle Lake No. 3 kimberlite may represent a "blow" along a kimberlite dike striking north of east (080°).

The Early Jurassic kimberlites penetrate the Paleozoic stratigraphy and can easily be subdivided or separated from the regional background magnetic patterns. The limestone country rock has very low magnetic susceptibility, which makes isolation of the kimberlite bodies by ground magnetics easy (Kong, Boucher and Scott-Smith 1999). The Proterozoic kimberlites are unexposed and do not cut the Paleozoic section. The lack of surface exposure means that they can be located only by geophysical methods as indicator mineral trails are absent. Unfortunately, no geophysical method can unequivocally identify kimberlite. Ultramafic intrusions, alnoites, carbonatites and segments of iron formation can all present isomagnetic contour patterns that appear identical to those of true kimberlite. This is true whether the material causing the anomaly is exposed at surface or buried.

Uncontaminated kimberlite gave an average magnetic susceptibility of 1×10^{-4} units, while kimberlite with country rock limestone xenoliths gave readings several magnitudes lower, indicating that the readings reflect xenolith content (Kong, Boucher and Scott-Smith 1999). Geophysical surveys and diamond drilling suggests that the kimberlite pipe walls are steep (Kong, Boucher and Scott-Smith 1999).

The Early Jurassic Attawapiskat kimberlites have been investigated by electromagnetic and gravity surveys and it has been determined that these geophysical techniques are unsuccessful in outlining kimberlite bodies (Kong et al. 1999).

Exploration for kimberlite in the James Bay area by KWG Resources Inc. – Spider Resources Inc. has been based on the interpretation of detailed airborne magnetic surveys.

1.4. GEOCHRONOLOGY

The kimberlites of the Attawapiskat area have proven difficult to isotopically date given the scarcity of perovskite used in U/Pb dating. This is in contrast to kimberlites found along the Lake Timiskaming structural zone (Sage 1996) where most kimberlites contain perovskite that can be used for U/Pb age determinations. Perovskite is absent or rare in the Attawapiskat kimberlites. In addition, the Attawapiskat kimberlites are altered, making the micas unsuitable for either Rb/Sr or K/Ar isotopic study. Attempts have been made to obtain geochronologic ages on all the Early Jurassic kimberlite and, in several cases, multiple attempts have been made (i.e., Bravo-1, Victor-1, X-Ray and Zulu).

The following Early Jurassic kimberlites have been isotopically dated using the U/Pb method on perovskite (L.M. Heaman, University of Alberta, unpublished data, 1996, 1997, 1998):

Bravo-1	179.4 ± 2.2 Ma
	175.7 ± 1.8 Ma
Charlie-1	180.0 ± 1.6 Ma
MacFadyen-1	177.1 ± 2.0 Ma
	177.3 ± 1.8 Ma

The ages determined display a very limited range around 180 Ma. This range is within error and likely reflects a single intrusive episode. In contrast, dating of the Lake Timiskaming structural zone kimberlites indicates they were emplaced over approximately 30 million years, which straddles a polarity reversal in the magnetic field (Sage 1996). If age determinations on the Attawapiskat kimberlites had been more successful, a similar spread of ages would be anticipated since kimberlites are known to be multiphase, multiple event intrusions (Mitchell 1986).

The Proterozoic kimberlites have proven even more difficult on which to obtain age determinations. There is an absence of perovskite and the intrusions have been metamorphosed or altered. A Rb/Sr age determination of 1100 ± 40 Ma (L.M. Heaman, University of Alberta, unpublished data, 1996) was obtained on mica from drill core from Kyle Lake No. 1 (supplied by KWG Resources Inc.). After the Rb/Sr isotopic age was obtained, approximately 86 kg of less than 0.5 mm material from the Ashton Mining of Canada Inc. sampling of Kyle Lake No. 1 was processed in hopes of recovering perovskite to be used to obtain an isotopic age of greater precision. Perovksite was not recovered. Granitic xenoliths are abundant in the Kyle Lake No. 1 kimberlite and both zircon and sphene derived from these granitic rocks is abundant in the heavy mineral concentrate.

Very small samples of drill core from Kyle Lake No. 2 and Kyle Lake 3 were unsuccessfully tested for perovskite and mica suitable for isotopic dating.

Limitations on the availability of sample material has restricted the age determinations on the Proterozoic intrusions and the small samples available for the Early Jurassic kimberlites may be from phases that are perovksite free. If bulk sampling of any of these intrusions is undertaken, any perovskite recovered should be presented for age determinations.

Moser and Krogh (1995) obtained a U/Pb isotopic age of 2668 ± 2.0 Ma on monazite from an amphibolite-grade (mid-crust) paragneiss xenolith. A second U/Pb isotopic age of 1625 ± 100 Ma was obtained on zircon from granulite-grade (lower crust) garnet clinopyroxenite (Moser and Krogh 1995). They did not specify the kimberlite(s) from which these xenoliths were obtained. The metamorphic rocks in this region of the Sachigo Subprovince include granulite-grade rock that has undergone mid-Proterozoic metamorphism and an amphibolite-grade paragneiss that has been undisturbed since the Late Archean (Moser and Krogh 1995). Since there is no geophysical evidence that high-density granulite-facies rocks exist in the unexposed eastern portion of the Sachigo Subprovince, it is assumed that the granulite xenoliths were extracted by the erupting kimberlite from deep within the crust (Moser et al. 1997). Moser et al. (1997) present two interpretations of the zircon giving the Proterozoic age. These are 1) a mid-Proterozoic mafic intrusion into the lower crust that was remetamorphosed during a later Keweenawan (?) thermal event, or 2) that the Proterozoic rock was thrust beneath (into?) the lower crust of the Superior lithosphere, likely during the mid-Proterozoic Trans-Hudson orogeny.

1.5. PETROGRAPHY

Mantle Xenoliths

Schulze and Hetman (1997) completed the first published petrographic study on the Attawapiskat kimberlites on samples provided by Monopros Ltd. The study concentrated on mantle xenoliths obtained from drill core. Schulze and Hetman (1997) describe the mantle-derived material as follows:

> Peridotite fragments dominate the xenolith suite, including spinel-bearing and garnet-bearing varieties and examples in which garnet has been metasomatically replaced by various combinations of phlogopite, diopside and amphibole (± chromite). Megacrysts (>1 cm) of ilmenite and Cr-rich diopside are abundant in many of the kimberlites (though rare to absent in some), and red-orange garnets that belong to the Cr-poor megacryst suite are uncommon. Numerous examples of ilmenite have been found in association with various combinations of phlogopite, Cr-diopside and olivine. Eclogites are rare.

The peridotite xenoliths are coarse textured and undeformed, but rare examples of highly deformed peridotite exist that display fluidal and disrupted textures (Schulze and Hetman 1997). Schulze and Hetman (1997) examined 6 garnet-bearing harzburgite and lherzolite xenoliths from the Alpha-1, Gulf-1 and Victor-1 pipes, three of which had the garnets partially replaced by metasomatic edenitic hornblende. Equilibrium conditions for these garnets on a temperature (°C) versus depth (km) diagram with a 40 mW/m^2 geothermal gradient indicate a range of 680°C, 80 km to 1000°C, 150 km (Schulze and Hetman 1997). Four samples fall into the graphite stability field and two into the diamond stability field, however, the presence of metasomatic amphibole indicates disequilibrium and the significance of the calculated equilibrium conditions is uncertain (Schulze and Hetman 1997).

Three eclogite xenoliths were obtained from Gulf-1 and one from Alpha-1, which have low Na_2O in garnet and low K_2O in clinopyroxene, and are classified as Group II eclogites using the classification of McCandless and Gurney (1989) (Schulze and Hetman 1997). Three of the eclogites are high in magnesium and one is high in iron; the high iron specimen may be a mafic granulite (Schulze and Hetman 1997). Schulze and Hetman (1997) used experimentally determined partitioning of Mg and Fe in garnet and clinopyroxene developed by Ellis and Green (1979), and an assumed pressure of 50 kbar, to obtain temperatures of 920°C for the iron-rich sample and a temperature of 1388°C for a chrome-rich (2.07% Cr_2O_3) sample. The three lowest temperatures suggest that eclogite equilibrium conditions were similar to those of the deeper garnet peridotites although the depth of origin of the eclogite is not known (Schulze and Hartman 1997).

Ilmenite megacrysts and macrocrysts from Alpha-1, Victor-1, Gulf-1 and Uniform-1 were compared in composition to ilmenite from the "Granny Smith" suite, Kimberly pipe, Balmoral Mine and Monastry Mine, South Africa (Schulze and Hetman 1997). Examples of ilmenite intergrown with diopside, phlogopite and/or olivine were recovered from Alpha-1, Victor-1 and Gulf-1 pipes (Schulze and Hetman 1997). Schulze and Hetman (1997) found that the Attawapiskat ilmenites are somewhat similar to the "Granny Smith" suite, but extend to higher Cr_2O_3 values (2 to 5%) and appear unlike the Monastry chrome-poor suite intergrown with diopside. The Attawapiskat ilmenites differ from the "Granny Smith" suite in that olivine is common in the Attawapiskat suite but rare in the "Granny Smith" suite (Schulze and Hetman 1997). Schulze and Hetman (1997) concluded that all the ilmenite was from the ilmenite-olivine-diopside-phlogopite association, with the possible exception of ilmenite from Uniform-1 where no ilmenite was found intergrown with silicates. Chrome-poor silicate megacrysts are present in the Attawapiskat suite, but the ilmenite has been derived from the chrome-rich suite in contrast to ilmenites worldwide (Schulze and Hetman 1997).

Chrome-poor megacrysts of garnet and clinopyroxene are present in the Attawapiskat suite (Schulze and Hetman 1997). Red-orange garnets up to 2.5 cm have been found in Alpha-1, Gulf-1, India-1 and Victor-1 pipes and diopside megacrysts up to 5 cm are common in many pipes. Schulze and Hetman (1997) compare the garnets with the chrome-poor megacryst garnets from the Sloan kimberlite, Colorado and Hamilton Branch kimberlite, Kentucky. Most clinopyroxene megacrysts are compositionally similar to those from the ilmenite association, but some are unlike this association and comparable in composition to the chrome-poor clinopyroxene megacrysts from the Hamilton Branch kimberlite, Kentucky (Schulze and Hetman 1997).

Schulze and Hetman (1997) investigated garnet xenocrysts from the Gulf-1 kimberlite and concluded that the garnets are dominated by those from a lherzolite source. The upper mantle was interpreted to consist of 92% lherzolite, 6% harzburgite, 1% Group II eclogite and 1% wehrlite (Schulze and Hetman 1997).

Schulze and Hetman (1997) compare the Attawapiskat kimberlite metasomatism with that observed in kimberlite pipes near Kirkland Lake, Ontario and concluded that the Kirkland Lake pipes were less altered than the Attawapiskat pipes. In the Kirkland Lake pipes, fewer garnets display replacement by diopside and phlogopite, and amphibole, which is present in the Attawapiskat suite, is absent (Schulze and Hetman 1997). Schulze and Hetman (1997) concluded that the metasomatic event in the Attawapiskat pipes might have occurred at a shallower level. High temperature "sheared" peridotites have not been recognized in association with the Attawapiskat kimberlites event though the association is widespread elsewhere (Schulze and Hetman 1997). The precise timing of events remains indeterminate.

Granulite Xenoliths

Moser and Krogh (1995) studied the granulite xenoliths recovered from the Attawapiskat kimberlites. They collected approximately 60 xenoliths and subdivided them into two groups (Moser and Krogh 1995). One group consisted of tonalitic and amphibolitc gneiss and garnet bearing tonalitic and amphibolitic gneiss. The second group was of garnet + clinopyroxene ± plagioclase composition (Moser and Krogh 1995). The two groupings contained approximately equal numbers of xenoliths.

Kimberlite Geology and Classification

The author had one 25 cm length of core from which two thin sections were prepared from each Early Jurassic pipe. The author did not examine the core. The classification and description of these kimberlites must therefore be largely the interpretation of Kong, Boucher and Scott-Smith (1999) and the reader should refer to their work for detailed discussion.

Of the 16 kimberlites identified by Monopros Ltd., only Yankee-1 contained no diamond and no correlation between indicator mineral content and diamond content has been observed (Kong, Boucher and Scott-Smith 1999).

The Early Jurassic kimberlites are macrocrystic with olivine macrocrysts up to 1.0 cm but mostly less than 0.5 mm (Kong, Boucher and Scott-Smith 1999). The presence of undulose extinction indicates that the olivine macrocrysts are xenocrysts derived from mantle peridotite (Kong, Boucher and Scott-Smith 1999). Mantle-derived ilmenite, garnet, chrome diopside, mica and spinel are also present as xenocrysts (Kong, Boucher and Scott-Smith 1999). Kong, Boucher and Scott-Smith (1999) observed that the mantle material is set in a groundmass of carbonate, serpentine, spinel, mica, apatite, perovskite and lessor monticellite. Kimberlites Alpha-North, Bravo-1, Charlie-1 and Tango-1 have indicator mineral suites consisting mainly of garnet and spinels with only rare ilmenite (Kong, Boucher and Scott-Smith

1999). The peridotitic pyrope garnets were classified as G-10 and G-9, but the G-10 were interpreted to be high-pressure lherzolite garnet rather than being of harzburgite origin (Kong, Boucher and Scott-Smith 1999). Kong, Boucher and Scott-Smith (1999) interpreted the garnet population to be from a lherzolite source, harzburgite garnet was absent and eclogite garnet rare. The presence of sub-calcic pyrope garnet and chromites of compositions similar to those found as inclusions in diamond indicates that the kimberlites have sampled the diamond stability field, however, the low abundance suggests only limited sampling within the diamond window (Kong, Boucher and Scott-Smith 1999). Kong, Boucher and Scott-Smith (1999) applied the garnet-nickel thermometer of Griffin et al. (1989) and Griffin and Ryan (1995) to obtain a temperature range between 426°C and 1314°C, which defines a relatively low geothermal gradient of 37 mW/m^2 for the area.

TEXTURAL CLASSIFICATION

Kong, Boucher and Scott-Smith (1999) subdivided the Attawapiskat kimberlites into two groups; that is, 1) medium-grained macrocrystic uniform to segregationary textured hypabyssal kimberlite (hypabyssal) and 2) medium-grained macrocrystic magmaclastic kimberlites (pyroclastic). The reader should refer to Kong, Boucher and Scott-Smith (1999) for details.

The Attawapiskat kimberlites are not typical kimberlite breccias that infill diatremes (Kong, Boucher and Scott-Smith 1999). Kong, Boucher and Scott-Smith (1999) indicate that the presence of fresh olivine, primary carbonate with magma clasts and inter-clast matrix and the low abundance of country rock xenoliths, absence of pelletal lapilli and quenched microlitic clinopyroxene all point to the pipes not being typical diatreme facies. There is no evidence of resedimentation involving reworking of crater facies deposits and there are instances where hypabyssal kimberlite occurs stratigraphically higher in a pipe than pyroclastic kimberlite (Kong, Boucher and Scott-Smith 1999). Kong, Boucher and Scott-Smith (1999) concluded that the textural interpretations are complex.

MINERALOGICAL CLASSIFICATION

Kong, Boucher and Scott-Smith (1999) classify the Early Jurassic Attawapiskat kimberlites as spinel carbonate kimberlite and less common monticellite kimberlite. Abundant carbonate in the Attawapiskat kimberlites is considered by Kong, Boucher and Scott-Smith (1999) as very unusual compared to kimberlites worldwide.

GEOLOGY

Kong, Boucher and Scott-Smith (1999) classify Alpha-1, Alpha-North, Bravo-1, Gulf-1, India-1 and Victor-1 as spinel carbonate kimberlites, Charlie-1 and Uniform-1 as monticellite kimberlites and Delta-1 contains both mineralogical varieties. Texturally, both hypabyssal and pyroclastic kimberlite occur in both mineralogical varieties (Kong, Boucher and Scott-Smith 1999). Kong, Boucher and Scott-Smith (1999) indicate Alpha-1, Alpha-North, Bravo-1, Uniform, X-Ray-1 and Yankee-1 are hypabyssal kimberlites with a surface area of 6 to 7 hectares (ha). Charlie-1, Gulf-1, Tango-Extension, X-Ray and Victor-1 are pyroclastic kimberlites and bedding has been observed in Victor-1 and Charlie-1 (Kong, Boucher and Scott-Smith (1999). Charlie-1 is one of the smaller kimberlites, but consists of pyroclastic kimberlite to a depth of at least 125 m, and Delta-1 is unique in that the spinel carbonate kimberlite is pyroclastic while the monticellite variety is hypabyssal Kong, Boucher and Scott-Smith (1999). Gulf-1 contains rare examples of autoliths of hypabyssal kimberlite within pyroclastic kimberlite (Kong, Boucher and Scott-Smith 1999). Kong, Boucher and Scott-Smith (1999) state, on the basis of very limited data, that the walls of the kimberlite pipes appear to be steep.

The crustal xenoliths are dominated by angular limestone fragments displaying a variety of colours and textures (Kong, Boucher and Scott-Smith 1999). The xenoliths in the hypabyssal phase may display more common zonal alteration and dark xenoliths of basement origin are commonly zonally altered (Kong, Boucher and Scott-Smith 1999). Kong, Boucher and Scott-Smith (1999) observed that some of the Paleozoic xenoliths represent formations that have been subsequently removed by erosion since emplacement. Country rock xenoliths are not abundant in the Attawapiskat kimberlites.

EMPLACEMENT

Kong, Boucher and Scott-Smith (1999) argued for a particular kimberlite emplacement model based on an interpretation of the textures that are summarized below. They report the absence of a diatreme facies, which is attributed to the lack of an igneous barrier (cap rock), and the presence of faults, which prevented the subsurface buildup of volatiles (Kong, Boucher and Scott-Smith 1999). The kimberlite magma was carbonate-rich, which crystallized mainly carbonate, and carried a large proportion of xenocrysts and early precipitated phenocrystal olivine. The fluidal part of the erupting Attawapiskat kimberlite magma was comparable to a carbonatite magma and its erupting products, but it is not comparable petrogenetically to carbonatite (Kong, Boucher and Scott-Smith 1999). Kong, Boucher and Scott-Smith (1999) report that Charlie-1 is one of the few Attawapiskat kimberlites (var: monticellite) reflecting a more normal relatively silica-rich kimberlite magma.

Kong, Boucher and Scott-Smith (1999) concluded that the volumes occupied by the Attawapiskat kimberlites were excavated by phreatomagmatic processes and subsequently infilled by subaerial pyroclastic lapilli tuffs and/or hypabyssal kimberlite. Kong, Boucher and Scott-Smith (1999) report one example of volcaniclastic kimberlite breccia hosted by hypabyssal kimberlite suggesting that crater facies kimberlite formation proceeded emplacement of the hypabyssal kimberlite.

1.6. KIMBERLITE DESCRIPTIONS

A brief description is presented below of each of the kimberlites based on assessment files, thin section petrography and published literature. Very brief thin section descriptions are presented in Tables 1.2 and 1.3 in the appendix to this report.

Alpha-1

The Alpha-1 kimberlite displays an isomagnetic contour pattern suggesting an oval-shaped intrusion approximately 400 m long in an east-west direction (Figure 1.7). The intrusion is located at approximately latitude 52°41′22″N, longitude 83°46′42″W, and has been drill tested by one vertical drill hole, A1-1-88, totalling 203 m. This drill hole penetrated kimberlite from surface to the bottom of the hole. The drill log notes limestone xenoliths and kimberlite indicator minerals throughout (Resident Geologist's office, Timmins, assessment files). Chrome diopside-bearing xenoliths, pyroxene and garnet megacrysts and calcite veining increased down the hole. Two thin sections examined by the author showed an altered hypabyssal kimberlite with small angular crustal xenoliths (Photo 1). The indicator mineral chemistry displays a lherzolite garnet source (G-9), a lack of chromite compositions comparable to those found as inclusions in diamond and a somewhat oxidized ilmenite population (Figure 1.1). Garnet is not abundant and was concentrated in the finer (0.25 to 0.6 mm) fraction. It is dominantly purple in colour with subordinate red and orange. Ilmenite was the dominant oxide phase with lesser chromite. Minor amounts of chrome diopside were recovered. Olivine is common.

Alpha-North

The Alpha-North kimberlite occurs immediately north of Alpha-1 and is illustrated by an isomagnetic contour pattern suggesting that it may consist of a kimberlite dike trending (045°) along which several "blows" may have occurred (Figure 1.7). Two drill holes, A1-2-89 and A1-3-89, totalling 288 m, were completed on Alpha-North. Hole 2 is located at approximately latitude 52°41'36"N, longitude 83°46'43"W, and hole 3 is located at approximately latitude 52°41'44"N, longitude 83°46'32"W (Resident Geologist's office, Timmins, assessment files). The drill logs indicate kimberlite was intersected from the top to the bottom of the holes. This kimberlite was described as hypabyssal with xenoliths of limestone, basement rocks, mantle nodules and megacrysts of pyroxene, garnet, phlogopite and ilmenite (Resident Geologist's office, Timmins, assessment files). Two thin sections examined by the author consisted of altered hypabyssal kimberlite. The indicator mineral chemistry displays a dominantly lherzolite garnet chemistry, but several grains plot along or just across the 85% line into the harzburgitic field (Figure 1.1). The chromite and ilmenite chemistry is similar to Alpha-1 with the ilmenite possibly being slightly more reduced. The indicator mineral suite appears very similar to the one observed in Alpha-1.

Bravo-1

The Bravo-1 kimberlite occurs at approximately latitude 52°51'55"N, longitude 83°56'31"W. The kimberlite was found by diamond drill hole B1-1-88, totalling 123 m, and was logged as hypabyssal macrocrystic kimberlite. From a depth of 103 m to the bottom of the hole, the drill log indicates that the hole first penetrated brecciated limestone and then fossiliferous and fine-grained limestone. The intrusion has a circular to somewhat oval isomagnetic contour pattern of approximately 300 m maximum diameter (Figure 1.7). The indicator mineral chemistry indicates this kimberlite has a mixture of garnets of G-9 and G-10 compositions, with G-9 being dominant (Figure 1.1). The chromite compositions plot close to, but not in, the diamond inclusion field, and the ilmenite compositions indicate a reduced environment (Figure 1.1). Garnet is not abundant and occurs in deep red to pink and orange colours. Chromite may be the slightly more dominant oxide phase, but ilmenite is common. Minor amounts of clinopyroxene were recovered. The geochemical characteristics suggest diamond may be present. The two thin sections examined by the author indicated an altered hypabyssal kimberlite.

In 1997, Monopros Ltd. completed a detail ground geophyscial survey over the kimberlite pipe outlining an anomaly of approximately 500 nT intensity with a surface area of approximately 3.0 ha (Resident Geologist's office, Timmins, assessment files). Six reverse circulation holes were completed, totalling 487 m, from which 12 372.5 kg of wet kimberlite were collected and sent to South Africa for processing (Resident Geologist's office, Timmins, assessment files). The sample contained fresh and altered olivine, and rare garnet, clinopyroxene and ilmenite. The indicator mineral content is relatively low when compared to other kimberlites of the Attawapiskat area or those located along the Lake Timiskaming structural zone.

The company recovered 6 macrodiamonds from the sample (Resident Geologist's office, Timmins, assessment files). The term "macrodiamond" in this case was defined as a stone greater than 1.0 mm. No additional work was recommended.

Charlie-1

Charlie-1 is located at approximately latitude 52°51'34"N, longitude 83°56'00"W, and has a diameter of approximately 200 m based on the isomagnetic contour pattern (Figure 1.7). The kimberlite was identified by two diamond drill holes, C1-1-89 and C1-2-89, completed at the same site, totalling 167 m (Resident Geologist's office, Timmins, assessment files). The kimberlite is described as dominantly hypabyssal macrocrystic to macrocrystic-segregationary kimberlite with basement xenoliths, indicator mineral megacrysts and olivine-pyroxene or olivine-pyroxene-garnet nodules (Resident Geologist's office, Timmins, assessment files). The xenoliths reach a maximum size of 5 by 6 cm with the basement xenoliths being of much larger size than those of mantle origin. In thin sections examined by the author, the kimberlite is a pervasively altered hypabyssal facies. Serpentinized olivine is common and phlogopite displaying bent (001) cleavage is present (Photo 2).

Kong, Boucher and Scott-Smith (1999) has prepared a detailed petrographic description of Charlie-1 summarized below. The kimberlite consists of two generations of magma clasts (clast supported, some cored with a xenolith) set in a fine-grained groundmass. The matrix consists of fine-grained spinel, perovskite, phlogopite, apatite and possibly monticellite set in a groundmass of serpentine and carbonate. Basement xenoliths are more common than limestone xenoliths and the former are commonly mantled with kimberlite, whereas the limestone is unaltered and lacks kimberlite mantles. The interclast carbonate within the matrix is coarser grained and more abundant than carbonate found in the magma clasts (Kong, Boucher and Scott-Smith 1999). Kong, Boucher and Scott-Smith (1999) interprets the interclast textures to indicate crystallization from a volatile-rich fluid circulating through porous pyroclastic deposits.

The overall appearance of the core is one of poor sorting, clast supported, loosely packed, with horizontal graded beds of a maximum width of 1 to 2 m (Kong, Boucher and Scott-Smith 1999). Xenoliths are concentrated at the base of the units displaying grading (Kong, Boucher and Scott-Smith 1999). The reader should refer to Kong, Boucher and Scott-Smith (1999) for details.

The garnet chemistry displays a population of G-10 garnets, even though dominated by G-9 (Figure 1.1). No chromite grains lie in the diamond inclusion field although they are very close. The ilmenite displays a more limited range in composition than ilmenite from most kimberlites and the compositions suggest a reduced source magma (Figure 1.1). The garnet displays lilac, red and rarely orange colours and the chromite is usually present as dull lustered octahedrons. The ilmenite commonly displays white coatings of leucoxene. Garnet may be somewhat more common in this kimberlite than most Attawapiskat pipes. Clinopyroxene and olivine were recovered from the sample.

Delta-1

Kimberlite Delta-1 occurs at approximately latitude 52°47'21"N, longitude 83°39'36"W, and has a circular isomagnetic contour pattern of approximately 400 m diameter (Figure 1.7). The kimberlite pipe was outlined by two diamond drill holes completed from two different sites, D1-1-88 and D1-2-88, totalling 372 m (Resident Geologist's office, Timmins, assessment files). The drill logs indicate that hypabyssal macrocrystic kimberlite is the dominant rock type and that hypabyssal segregationary macrocrystic kimberlite is a subordinate phase. Limestone is common as xenoliths (Resident Geologist's office, Timmins, assessment files). Olivine-pyroxene xenoliths and kimberlite indicator minerals were recognized throughout (Resident Geologist's office, Timmins, assessment files). The two thin sections examined by the author indicated an altered hypabyssal kimberlite. Fresh olivine is common and phlogopite grains displaying bent (001) cleavage were observed (Photo 3). Kong, Boucher and Scott-Smith (1999) has noted that the Delta-1 kimberlite is the only kimberlite in the Attawapiskat cluster that displays both mineralogical classifications of kimberlite, that is, spinel carbonate and monticellite.

Kong, Boucher and Scott-Smith (1999) indicate this kimberlite with a surface area of 7 to 8 ha and has hypabyssal kimberlite stratigraphically above volcaniclastic kimberlite. They report minor horizontal bedding in the upper portion of the pipe and that magma clasts are most abundant toward the bottom of the drill holes. Volcaniclastic kimberlite in the bottom of one hole contains fewer indicator minerals and an ilmenite of different composition suggesting the pipe is multiphased. Kong, Boucher and Scott-Smith (1999) concluded that complex textural changes over short distances were not interpretable.

The garnet population shows a G-9 population with lesser garnets of G-10 chemistry (Figure 1.1). The chromite suite fails to have any grains displaying a composition equivalent to those found as inclusions within diamond (Figure 1.1). The ilmenite compositions suggest that the source magma is reduced. The garnet displays red, lilac and orange colours with red and lilac dominant. Some of the lilac garnet appears polycrystalline. The oxide phases are not abundant and chromite occurs as good octahedral crystals. Clinopyroxene was not abundant and fresh olivine makes up most of the heavy mineral concentrate.

Gulf-1

Gulf-1 has an approximate diameter of 300 m based on the isomagnetic contours (Figure 1.7). The pipe has been tested by one diamond drill hole, G1-1-88, totalling 198 m (Resident Geologist's office, Timmins, assessment files). The kimberlite pipe is located at approximately latitude 52°54′57″N, longitude 83°49′03″W, and has been logged as a hypabyssal segregationary macrocrystic kimberlite (Resident Geologist's office, Timmins, assessment files). The drill hole encountered kimberlite throughout its length and mantle nodules composed of olivine-pyroxene were noted in several locations. Garnet, ilmenite and clinopyroxene megacrysts were observed and limestone xenoliths were noted throughout. Toward the bottom of the hole the presence of kimberlite dikes altered to an orange colour cutting the hypabyssal kimberlite were noted at two locations (Resident Geologist's office, Timmins, assessment files). The presence of kimberlite dikes intruding kimberlite indicates at least two periods of intrusion. The garnet is almost exclusively G-9 with only an occasional grain falling on the 85% line (Figure 1.1). Few chromite grains fall near the field of diamond inclusion compositions, but the ilmenites display a generally reduced condition indicating favourable conditions for diamond preservation (Figure 1.1). Thin sections examined by the author indicate an altered hypabyssal kimberlite (Table 1.2).

The garnet content of the sample is low. The garnet suite is dominated by red and orange colours and only a rare lilac coloured grain was noted. The garnet chemistry shows a lack of G-10 compositions (Figure 1.1). Ilmenite is the dominant oxide phase with chromite forming only a minor component. The relatively few chromite analyses do not fall into the field representing chromite inclusions in diamond and the ilmenite compositions suggests they formed in a reduced environment (Figure 1.1). The few chromite grains consisted of dull lustered octahedra. Clinopyroxene is dominant over orthopyroxene. Olivine composes most of the heavy mineral sample.

India-1

The India-1 kimberlite pipe occurs at latitude 52°38′31″N, longitude 83°48′34″W, and was identified by diamond drill hole I1-1-88, totalling 169 m (Resident Geologist's office, Timmins, assessment files). The drill log indicates the kimberlite to be a hypabyssal macrocrystic kimberlite with rare basement and mantle xenoliths and small limestone xenoliths. Garnet, clinopyroxene and ilmenite megacrysts are noted, but not common (Resident Geologist's office, Timmins, assessment files). Possible flow banding has been noted in the kimberlite below 90 m (Resident Geologist's office, Timmins, assessment files). Thin sections examined by the author indicated an altered hypabyssal kimberlite (Photo 4).

The garnet compositions indicate a scattering in the G-10 field, but most fall into the G-9 field (Figure 1.1). The India-1 kimberlite contains a population of low-chrome to chrome-free garnet. The chromite compositions do not fall into the field of chromite compositions found as inclusions in diamond and the ilmenite compositions are considered to be in a reduced state (Figure 1.1). The indicator mineral geochemistry provides mixed results with some mineral compositions indicating diamond potential suggesting additional investigation may be warranted.

The garnet content of the sample is relatively low and dominated by lilac colours. The oxide phase is dominated by ilmenite with chromite being greatly subordinate and almost rare. Minor clinopyroxene is present and at least one grain of orthopyroxene was identified. Olivine makes up most of the heavy mineral sample.

Kyle Lake No. 1

The Kyle Lake No. 1 kimberlite pipe is located at approximately latitude 52°27'48"N, longitude 85°24'15"W, northwest of Missisa Lake. Phlogopite from KWG Resources Inc. – Spider Resources Inc. discovery diamond drill hole DR94-09 returned a Rb/Sr isotopic age of 1100 ± 40 Ma, which indicates it was emplaced during development of the Midcontinent Rift in the Lake Superior region. The discovery of this Proterozoic kimberlite established a new age group of kimberlites in Ontario and that geophysical anomalies whose source is the bedrock below the Paleozoic cover cannot be ignored. The diamond drill log for vertical hole 95-26 indicates that 56.5 m of clays and bouldery overburden followed by 43.5 m of dominantly horizontally bedded limestone (depth 130 m) overlie the kimberlite (Resident Geologist's office, Timmins, assessment files). Directly on top of the kimberlite lie 2.5 m of sandy-silty material and, from 130.0 to 138.5 m, the kimberlite has been described as weathered with isolated fragments of unweathered material (Resident Geologist's office, Timmins, assessment files). The drill log indicates an alternating sequence of kimberlite and granitic gneiss to a depth of 422.3 m where a contact breccia between kimberlite and gneiss is intersected and, from that point, biotite-hornblende granitic gneiss occurs to the bottom of the hole at 494.0 m (Resident Geologist's office, Timmins, assessment files). The kimberlite is represented by a circular magnetic anomaly approximately 300 m in diameter (Figure 1.8).

Private drill logs provided by KWG Resources Inc. – Spider Resources Inc. summarized below indicate that approximately 5409.74 m of diamond drilling was completed by these companies on the kimberlite occurrence (Figure 1.8). The combined overburden – Paleozoic cover sequence thickness varies from approximately 127 to 134 m; averaging 131.6 m. Most of the drilling was vertical holes, however, several were inclined holes. The detailed log of inclined (54°) hole DR96-48, prepared by R. Thomas, Consulting Geologist, provides a good cross-section of the Kyle Lake No. 1 kimberlite complex. The log indicates dominantly hypabyssal kimberlite with subordinate diatreme facies extensively contaminated with granitic gneiss. The kimberlite–granite contacts are described as sharp, but that the granitic xenoliths are altered implying some interaction between the kimberlite magma and the granitic gneiss (Photos 5 and 6). Between 524 and 539 m, coarse-grained dark grey and fine-grained, medium dark grey kimberlite was in sharp contact, suggesting two ages of emplacement. Several small eclogite xenoliths were described in the core. The margins of the kimberlite complex consist of a brecciated granitic gneiss extensively veined with kimberlite. On the basis of the drill logs, the kimberlite may possibly be described as representing a megabreccia of granitic gneiss diked with kimberlite. Using only the vertical drill holes, including those of Ashton Mining of Canada Inc., the overburden varies between 56 and 62 m in thickness, averaging 58.9 m. The flat-lying Paleozoic cover consists of limestone, dolomite, mudstone and sandstone varying from 71 to 80 m in total thickness, averaging 73.6 m. The weathered regolith surface varies from 13 to 30 m in thickness, averaging 23.1 m. Removing the thinnest regolith section of 13.15 m, the average regolith thickness increases to 24.7 m. There appears to be only minor topographic relief on the basement surface below the Paleozoic rocks.

Ashton Mining of Canada Inc. was in partnership with KWG Resources Inc. – Spider Resources Inc. at the time of discovery of Kyle Lake No. 1 and completed three vertical diamond drill holes on the kimberlite body. Private drill logs indicated a total of 1138.0 m was drilled and that the average overburden plus Paleozoic section was 134.8 m. On the basis of the drilling results of KWG Resources Ltd. – Spider Resources Ltd., the overburden plus Paleozoic rock section above the kimberlite averages approximately 132.3 m (434.0 feet).

Examination of the drill core from hole 95-26 has been undertaken by consulting geologists specializing in kimberlite geology with inconclusive results. These reports are available in Assessment File T-3659 (Resident Geologist's office, Timmins, Ontario) and will not be discussed in detail here. All consultants have qualified their conclusions to the specific samples they have examined and reserved the right to modify their opinions when additional data is available.

Scott-Smith (1995a) interpreted the body to be a contaminated, multiply intruded kimberlite that is olivine-rich and indicator mineral poor. Not all the textural features are consistent with kimberlite, but contamination may have affected magmatic evolution (Scott-Smith 1995a). She suggests that diamond grades may be affected by flow differentiation, settling and dilution.

Mitchell (1995b?) interprets the body on the basis of mineral chemistry to be a multiple intrusion of genetically related alkaline, ultramafic, lamprophyre. The intrusion does not contain kimberlite, lamproite, minette or orangeite (Mitchell 1995b?). Mitchell (1995b?) suggests that the body may be related to the melilitoid clan.

Min Scan Consultants (1995) noted many mineralogical differences between the Kyle Lake No. 1 samples and kimberlite. In general, Min Scan Consultants (1995) concurred with the findings of Scott-Smith (1995a) with the possibility that this was a new, unnamed rock type. Geochemically, the Kyle Lake No. 1 body falls within the range of possible kimberlite compositions (Min Scan Consultants 1995).

The author examined the discovery hole DR94-09 and would have logged it as a serpentinized ultramafic intrusion, similar to many found in typical greenstone belt stratigraphy. The recovery of diamond by KWG Resources Inc. – Spider Resources Inc. from the core stimulated a closer examination of the material. One sample taken from hole DR94-09 at a depth of 625 feet (190.5 m) was taken for complete major and minor element analysis by the Survey (Table 1.4). The sample was selected for its homogeneous appearance and the absence of any xenolithic or xenocrystic material (*see* Table 1.3, appendix; Photo 7). The geochemistry of this specimen is given in Table 1.4 and compared to average values for kimberlite presented by Mitchell (1986). In a very brief examination of core DR94-09, rare crustal xenoliths were noted. Later cores displayed granitic rock intermixed with kimberlite. The granitic rock displayed both sharp and diffuse contacts implying that some interaction with the kimberlite magma.

The silica content of the rock is comparable to some kimberlites presented by Mitchell (1986), but is high relative to the Siberian kimberlites which provide one of the few comparable data sets (Table 1.4). The alumina content is double that normally observed in kimberlite and the titanium content high compared to kimberlite. The Fe_2O_3 and FeO are comparable to kimberlite values. The MnO, MgO, CaO, P_2O_5 and K_2O contents are comparable to kimberlite or some values presented by Mitchell (1986) for kimberlites from areas other than Siberia. Sodium appears relatively low compared with typical kimberlite. For the minor elements Li, Er and Ho may be slightly elevated while Ni, Cu, Zn, Rb, Sr and Zr may be somewhat depleted relative to average Siberian kimberlite. Most minor element values would appear to be comparable to values found in average Siberian kimberlite. The high alumina and titanium content suggests the possibility that the rock is a crustally contaminated kimberlite. This is consistent with the interpretation of Scott-Smith (1995a) and Min Scan Consultants (1995).

Ashton Mining of Canada Inc. completed three test holes on the intrusion. The author has examined two specimens of this core. One specimen consisted of kimberlite in sharp contact with granitic rock and the second appeared to show a complex intermingling relationship between the granitic gneiss and kimberlite (Photo 5). Ashton Mining of Canada Inc. used attrition milling methods in evaluating their samples. This method left a less than 0.5 mm size fraction of material which was unprocessed since the objective of the test was to recover macrodiamonds (greater than 0.5 mm). The fine-grained material weighing approximately 118 kg was obtained from KWG Resources Inc. The less than 0.25 mm fraction weighing 86.244 kg was sent to L.M. Heaman, University of Alberta, to obtain perovskite suitable for age determinations, however, perovskite was not recovered.

The 0.25 to 0.5 mm fraction weighing 22.061 kg was processed to remove the magnetic fraction (weight 8.656 kg) and a test sample removed for processing in the Geoscience Laboratory, Ontario Geological Survey. The remaining sample, consisting of 11.245 kg of 0.25 to 0.5 mm material, was sent to Overburden Drilling Management Ltd. to be processed for indicator minerals.

The heavy mineral fraction is unlike any heavy mineral assemblage observed by the author from Ontario kimberlites. The heavy mineral fraction consisted of 70 to 80% pyrite represented by cubes, octahedra and pyritohedra. Approximately 1 to 2% of the sulphide mineral fraction was composed of flatten radiating sprays of millerite (Photo 8). Their flattened nature suggested they might have formed in fractures. Within the test sample, black to greenish black sharply euhedral dodecahedras of andradite garnet were common (Photo 9). The presence of similar garnet has not been observed in other Ontario kimberlites. The pyrite, millerite and andradite garnet is here interpreted as an alteration or metamorphic assemblage.

A second heavy mineral assemblage consists of elongated prismatic zircon, tabular brown adamantine sphene and the rare grain of molybdenite (Photos 10 and 11). The zircon and sphene have irregular surfaces or crystal faces suggesting the possibility of some resorption. Zircon and sphene has not been observed in other Ontario kimberlites and the sphene is a reflection of the relatively high titanium content of the intrusion. The sphene, zircon and molybdenite are interpreted here to be derived from the granitic host rock that displays contact relations suggesting interaction with the kimberlite magma.

The third heavy mineral assemblage defines the intrusion as kimberlite and is of interest to diamond exploration. The kimberlite indicator mineral content of Kyle Lake No. 1 is low and only a relatively large volume of sample material provided sufficient material for study. Kimberlites with low indicator mineral content have been encountered previously among kimberlites along the Lake Timiskaming structural zone, that is, OPAP and McLean (Sage 1996). The lilac coloured garnet, and greatly subordinate orange garnet, within the Kyle Lake No. 1 kimberlite is interpreted here as part of the kimberlite indicator mineral suite. The lilac colour is characteristic of G-10 garnets and traces of kelyphite were noted on several of the larger grains. The lilac and orange coloured garnets contrast sharply with the andradite garnet in lacking crystal faces and the presence of traces of kelyphite. A Cr_2O_3 versus CaO plot (Figure 1.1) indicates that over half the grains analyzed are G-10 and the remainder are G-9. Kyle Lake No. 1 contains the highest proportion of G-10 garnets observed so far by the author in an Ontario kimberlite. The clustering of analytical data on the Cr_2O_3 versus CaO plot suggests the possibility that the sample contained few pyrope garnet megacrysts that have been broken into many fragments in the sample preparation process.

Chromite is present in the concentrate as sharp, shiny to dull lustered octahedra. On a MgO versus Cr_2O_3 plot a number of the chromite grains plot in the field for chromite inclusions in diamond indicating a favourable environment for diamond preservation (Figure 1.1). The number of chromite grains plotting in the inclusion field is the highest observed for an Ontario kimberlite. Microprobe study of the oxide phases indicates ilmenite is very rare in the Kyle Lake No. 1 intrusion and only one grain was identified.

Low chrome clinopyroxene, olivine and minor amounts of amphibole are present in the heavy mineral concentrate and can have many sources other than kimberlite. Celestite was common and traces of galena, sphalerite, epidote and hematite were noted.

Well-developed colourless octahedra of natural microdiamond were recovered from the sample by the author and Overburden Drilling Management Ltd. (unpublished data, 1997) along with yellowish-green synthetic diamonds that probably came from the drill bit.

Spider Resources Inc. and KWG Resources Inc. announced in a news release dated February 1997 that the companies had recovered from 12 173.2 kg of kimberlite from which 4665 diamonds were recovered, of which 875 were macrodiamonds (>0.5 mm)(*The Northern Miner*, Feb. 10, 1997, p.6).

Kyle Lake No. 2

Kyle Lake No. 2 is located at approximately latitude 53°10′26″N, longitude 85°27′32″W. The Kyle Lake No. 2 has a circular isomagnetic anomaly approximately 200 m in diameter (Figure 1.8) and was tested by one diamond drill hole, DR 95-34, totalling 383.0 m (Resident Geologist's office, Timmins, assessment files). The intrusion lies beneath 7.67 m of overburden and 61.02 m of Paleozoic cover rocks and is arbitrarily assumed by the author to be more or less equivalent in age to Kyle Lake No. 1 (Resident Geologist's office, Timmins, assessment files). The drill log (Resident Geologist's office, Timmins, assessment files) indicates a serpentinized hypabyssal kimberlite with a poorly developed weathering profile at the top. The log indicates the presence of unclassified xenoliths, diorite and granitic gneiss xenoliths, but only possible traces of the indicator mineral suite. One attempt to obtain a Rb/Sr age determination on mica was unsuccessful. In thin section, the texture is characteristic of hypabyssal kimberlite, however, microprobe analysis of the phases was not completed (Table 1.3; Photo 12). Sample material was not available for indicator mineral study. Kyle Lake No. 2 is reported to have produced 4 macrodiamonds (>0.5 mm) and 14 microdiamonds from a 552 kg sample (*The Northern Miner*, June 19, 1995, p.6). The kimberlite was emplaced into a granitic terrane varying from granodiorite to quartz syenite in composition (Table 1.3).

Kyle Lake No. 3

Kyle Lake No. 3 is located at approximately latitude 53°11′30″N, longitude 85°47′16″W. Kyle Lake No. 3 has an elongated isomagnetic anomaly approximately 150 by 450 m (Figure 1.8) and has been drill tested by KWG Resources Inc. – Spider Resources Inc. and Ashton Mining of Canada Inc. Drill logs for three KWG Resources Inc. – Spider Resources Inc. holes are available for study: that is, DR95-41 through DR95-43, totalling 514.63 m (Resident Geologist's office, Timmins, assessment files). KWG Resources Inc. – Spider Resources Inc. completed 4 diamond drill holes DR 95-40 through DR 95-43 and Ashton Mining of Canada Inc. completed an additional hole. Private logs were obtained from KWG Resources Inc. – Spider Resources Inc. for drill hole DR 95-40 (213.0 m) and Ashton hole A6-94-1 (494.0 m). The long axis of the anomaly is approximately 080° along which a number of circular isomagnetic anomalies suggest the possibility that "blows" may have occurred along a kimberlite dike striking north of east. The intrusion lies beneath approximately 9.0 m of overburden and 24.2 m of Paleozoic rocks and is arbitrarily assumed to be more or less equivalent in age to Kyle Lake No. 1 (Resident Geologist's office, Timmins, assessment files). The available drill logs are from holes completed at angles of 45° to 65° (Resident Geologist's office, Timmins, assessment files). The logs indicate a serpentinized and carbonatized hypabyssal kimberlite locally logged as crater facies. They indicate an alternating sequence of kimberlite dikes and granitic gneiss implying the site represents a kimberlite dike complex. Drill hole DR 95-40 is vertical and penetrated 7.6 m of overburden and 24.4 m of cover before encountering kimberlite at 32.0 m (private drill log). The upper surface of the kimberlite is weathered, but the thickness of the weathering profile was not given (private drill log). The logs note the presence of serpentinized xenoliths along with locally numerous gneiss xenoliths. Phlogopite and serpentinized olivine are present, but kimberlite indicator minerals were not noted (Resident Geologist's office, Timmins, assessment files). One attempt to obtain a Rb/Sr age determination on mica was unsuccessful. Thin sections prepared from a very small number of small samples display a texture characteristic of hypabyssal kimberlite (Table 1.3; Photo 13), but electron microprobe study of the samples was not completed. Sample material for the study of indicator minerals was not available. The intrusion was emplaced into country rocks of tonalite to quartz monzonite composition (Table 1.3), and it is likely that the emplacement of Kyle Lake No. 3, as well as Kyle Lake No. 2, into a granitic terrane aided in their identification by geophysics due to sharply contrasting magnetic characteristics.

KWG Resources Inc. – Spider Resources Inc. report recovering 20 macrodiamonds (>0.5 mm) and 84 microdiamonds from a 293.4 kg sample (*The Northern Miner*, December 25, 1995, p.6). The results of testing by Ashton Mining of Canada Inc. are unknown.

Kyle Lake No. 4

Kyle Lake No. 4 was identified in 1996 by diamond drill holes DR 96-61 and DR 96-64, totalling 820.51 m (private records, KWG Resources Inc.; Resident Geologist's office, Timmins, assessment files). The kimberlite is located at approximately latitude 52°51′47″N, longitude 85°17′11″W, and, on the basis of circular isomagnetic contours, is approximately 500 m in diameter (Figure 1.8). The intrusion is interpreted to be Proterozoic in age and subcrops beneath 95.55 m of overburden and Paleozoic rocks (private records, KWG Resources Inc. vertical hole DR 96-61; Resident Geologist's office, Timmins, assessment files). The overburden consists of marine clays overlying till totalling 7.60 m and the Paleozoic section contains calacerous dolomite, siltstone, sandstone, shale, limestone, cherty dolomite and dolomite until weathered kimberlite is encountered at 95.55 m (private records, KWG Resources Inc.). The weathered hypabyssal kimberlite extends to 107.25 m and altered (serpentinized) hypabyssal kimberlite extends to a depth of 161.5 m where diatreme facies kimberlite is intersected to 200.19 m (private records, KWG Resources Inc.). Altered hypabyssal kimberlite extends to at least 401.11 m and an alternating sequence of hypabyssal kimberlite and granitic rock is intersected to the bottom of the hole at 458.15 m. Xenoliths of granitic basement are noted in many places throughout the drill log and in some cases the xenoliths are extensively altered.

Inclined drill hole DR 96-64 completed at a dip of 045°, bearing 000°, intersected overburden and Paleozoic rocks from surface to 143.66 m (private records, KWG Resources Inc.). From 143.66 to 245.62 m, granitic gneiss was encountered with several kimberlite dikes (private records, KWG Resources Inc.). Hypabyssal kimberlite with granitic xenoliths was penetrated from 245.62 to 338.36 m, after which granitic gneiss diked with kimberlite was intersected to the bottom of the hole at 361.76 m (private files, KWG Resources Inc.).

In thin section, the kimberlite was pervasively altered (serpentinized) and the granitic rocks were altered tonalite and quartz monzonite. The identification of the intrusion as kimberlite is based on thin section petrography and the observation that the textures are comparable to established hypabyssal kimberlite (Photo 14). Microprobe studies of the thin sections were not undertaken and sample material was not available for examination of indicator mineral content.

The results of testing this intrusion for diamond have not been reported.

Kyle Lake No. 5

Kyle Lake No. 5 is located at approximately latitude 53°04'31"N, longitude 85°15'44"W, and is not a kimberlite, but possibly is a lamproite (Min Scan Consultants Inc. 1998). The intrusion was intersected by two steeply inclined diamond drill holes, DR 96-62 and DR 96-63, totalling 684.14 m (private records, KWG Resources Inc.). The mafic body displays an oval isomagnetic contour pattern 300 by 450 m in size elongated north-south (Figure 1.8). The intrusion is assumed to be Proterozoic since it lies beneath Paleozoic rocks and has a similar magnetic expression comparable to those found associated with Proterozoic kimberlite. It is tentatively considered more or less temporally equivalent to the Kyle Lake No. 1, which has been isotopically dated. This body is of a different composition than kimberlite and its age needs confirmation. If subsequent investigation establishes this intrusion as true lamproite, its isotopic age may become critical for diamond exploration in the region. The question will be—is there coeval kimberlite and lamproite emplacement, or are we looking at a lamproite event of a distinctly different age?

Inclined hole DR 96-63 (–70°) intersected 128.06 m (vertical thickness 89.64 m) of Paleozoic rock before penetrating granitic gneiss to 251.63 m (private records, KWG Resources Inc.). Mafic to ultramafic rock was encountered from 251.63 to 322.00 m where diatreme facies rock was penetrated to a depth of 346.70 m (private records, KWG Resources Inc.). Pegmatitic granitic gneiss occurs from 346.70 m to the bottom of the hole at 380.00 m (private files, KWG Resources Inc.). Drill hole DR 96-62 (–60°) displays a similar rock distribution. The drill logs indicate the mafic rock is contaminated, has an occasional carbonate-filled fracture and contains xenoliths of granitic rock (private records, KWG Resources Inc.).

Thin sections of the intrusion indicate approximately 50% unaltered clinopyroxene, reddish brown biotite and abundant opaques (Photo 15). The clinopyroxene is euhedral to subhedral and imparts a porphyritic texture to the rock. The clinopyroxene commonly displays a prominent concentric zoning and small opaque mineral grains may be poikilitically enclosed within the outer margins of the concentric zoning. Olivine was absent. Turbid, anhedral, interstitial fine-grained material occurs in the matrix and may be the product of saussuritization. Fresh feldspar was not recognized. The author tentatively considers the unit to possibly be lamproite although electron microprobe studies and geochemical analyses are not available. Samples of the granitic gneiss hosting this intrusion were not available for examination. Material for thin section study became available during the writing phase of this report and time was too limited to undertake electron microprobe studies. Sufficient material to undertake heavy mineral studies was not available. The thin sections were examined by G. Sinclair, Min Scan Consultants Ltd. (1998), and interpreted to be possible lamproite.

The results of testing this rock for diamond content have not been released.

MacFadyen No. 1

MacFadyen No. 1 is located at approximately latitude 52°52'49"N, longitude 83°57'00"W, and is represented by a circular isomagnetic anomaly approximately 100 m in diameter (Figure 1.8). The intrusion occurs along a linear isomagnetic trend striking approximately 045°, which parallels the trend of the Winisk River fault at this location. MacFadyen No. 2 occurs south of MacFadyen No. 1 and along this trend. MacFadyen No. 1 and MacFadyen No. 2 may be "blows" along a northwest-trending kimberlite dike. MacFadyen No. 1 is part of the Early Jurassic cluster of kimberlites found near the Attawapiskat River.

The MacFadyen No. 1 kimberlite was the first kimberlite found by the KWG Resources Inc – Spider Resources Inc. exploration in the area. The kimberlite has been drill tested by 4 diamond drill holes (DR

94-01 through DR 94-04), totalling 328.63 m, by KWG Resources Inc. (private drill logs), and by one vertical hole (DH A15-95-1), totalling 270 m, by Ashton Mining of Canada Inc. (*see* Figure 1.8). Hole DR 94-03 did not intersect kimberlite. Samples for thin section study came from the discovery hole DR 94-01 and were provided by KWG Resources Inc. Less than 0.5 mm material left over from diamond testing from Ashton Mining of Canada Inc. was used for indicator mineral studies. Drill hole DHA15-95-1 indicates the kimberlite is covered with 32.2 m of overburden and that highly weathered kimberlite was penetrated to a depth of 57.0 m and then hypabyssal kimberlite to a depth of 249.0 m (Resident Geologist's office, Timmins, assessment files). From 249.0 to 264.0 m, Paleozoic limestone was encountered and, from 264.0 m to the bottom of the hole at 270.0 m, the rock is logged as gneiss (Resident Geologist's office, Timmins, assessment files). Crustal xenoliths and kimberlite indicator minerals are noted on the log. Thin sections examined by the author indicate a pervasively altered kimberlite breccia. Crustal xenoliths were common to abundant and the limited data suggests a diatreme facies even though none of the adjoining kimberlites contain diatreme facies (Kong, Boucher and Scott-Smith 1999).

Garnet was relatively abundant in the indicator mineral suite in contrast to other Early Jurassic pipes of the cluster. The garnet varied from purple to red. Chromite is an abundant oxide phase while ilmenite is uncommon to rare. Rare clinopyroxene was obtained from the sample and olivine was common. The chromite commonly occurred as shiny octahedrons. Garnet compositions indicated some G-10 garnets are present, but that the suite is dominanted by G-9 compositions (Figure 1.1). The chromite compositions plot very close to the field of chromite inclusions within diamond (Figure 1.1). The few ilmenites recovered from the sample indicate a reduced kimberlite magma (Figure 1.1). The indicator mineral chemistry indicates a kimberlite worthy of additional examination.

MacFadyen No. 1 is reported to have contained 2 macrodiamonds (>0.5 mm) and 7 microdiamonds from an unspecified sample size (*Mining Journal*, May 13, 1994).

MacFadyen No. 2

MacFadyen No. 2 occurs a short distance southeast of MacFadyen No. 1 at approximately latitude 52°52′42″N, longitude 83°56′45″W, along a linear isomagnetic pattern suggesting the presence of a kimberlite dike along which "blows" have occurred. MacFadyen No. 2 displays a circular isomagnetic pattern of approximately 75 to 100 m diameter and of lower magnetic intensity than MacFadyen No. 1 (Figure 1.8). The kimberlite was tested with one vertical diamond drill hole, DR 94-17, totalling 217.5 m (private records, KWG Resources Inc.) and is part of the Early Jurassic cluster of kimberlite pipes close to the Attawapiskat River. The drill log indicates the presence of 37.5 m of overburden followed by 59.0 m of Paleozoic limestone breccia before intersecting kimberlite to a depth of 186.3 m (private records, KWG Resources Inc.). The kimberlite is noted as containing Paleozoic crustal xenoliths and kimberlite indicator minerals (private records, KWG Resources Ltd.). From 186.3 to 217.5 m and at the bottom of the hole, the rocks are described as brecciated limestone with some sandy sections.

KWG Resources Inc. provided the Ontario Geological Survey with several samples for thin section study from the discovery hole. Sufficient material to undertake indicator mineral studies was not available. In thin section, the MacFadyen No. 2 kimberlite appears similar, if not identical, to MacFadyen No. 1.

Three microdiamonds were reported to have been recovered from a 145 kg sample (*The Northern Miner*, August 22, 1994, p.6).

Tango-1

The Tango-1 kimberlite is located at approximately latitude 52°52′31″N, longitude 83°57′39″W, and displays a circular isomagnetic anomaly approximately 300 m across with 3 internal isomagnetic contour closures (Figure 1.7). The three internal isomagnetic closures suggest the possibility it is a multiple intrusion. The kimberlite was tested by one vertical diamond drill hole T-1-88, totalling 647 feet (196.7 m) (Resident Geologist's office, Timmins, assessment files). The drill log indicates hypabyssal macrocrystic kimberlite was encountered to a depth of 259 feet (78.7 m) where kimberlite breccia was encountered (Resident Geologist's office, Timmins, assessment files). The kimberlite breccia extends to the bottom of the hole. Limestone and basement xenoliths are noted in the log and at the top of the hole sandstone and limestone are logged and may be blocks of Paleozoic rock enclosed in the kimberlite (Resident Geologist's office, Timmins, assessment files). Two thin sections prepared from drill core indicated an altered hypabyssal kimberlite (Table 1.2).

The heavy mineral concentrate was olivine-rich and contained relatively abundant garnet when compared to other kimberlites of the area. The garnet was dominantly of a red colour gradational to purplish-red. Only trace amounts of orange coloured garnet are present. Ilmenite is common and chromite is scarce. Trace amounts of prismatic black amphibole were present in the concentrate and were assumed to be from the basement rocks. Several grains of chrome diopside were recovered.

The garnet suite contained a few G-10 garnets and the chromite suite contained several grains whose composition is comparable to chromite intergrown with diamond (Figure 1.1). The ilmenite compositions displayed considerable variability and ranged in composition from those considered somewhat oxidized to those that are reduced (Figure 1.1). The indicator mineral chemistry suggests additional investigation is warranted.

Tango-Extension

Approximately 600 m southeast of Tango-1, a circular isomagnetic anomaly of approximately 200 m diameter represents the Tango-Extension kimberlite. The isomagnetic contours suggest a single-phase intrusion in contrast to the multiphase nature of Tango-1. The kimberlite is located at approximately latitude 52°52′16″N, longitude 83°57′22″W, and was drill tested by diamond drill hole TE-1-89, totalling 123 m (403.5 feet) (Resident Geologist's office, Timmins, assessment files). The drill log indicates that hypabyssal macrocrystic kimberlite was encountered from top to bottom of the hole (Resident Geologist's office, Timmins, assessment files). The drill log indicates xenoliths of Paleozoic rock, basement rock types and possibly mantle material. Garnet, clinopyroxene and ilmenite were noted on the drill log (Resident Geologist's office, Timmins, assessment files). Thin sections examined by the author indicated an altered hypabyssal kimberlite (Table 1.2; Photo 16).

The heavy mineral concentrate was similar to that obtained from Tango-1. The presence of more garnet than commonly found in the Attawapiskat cluster was noted, but the relative proportion of orange garnet was significantly higher even though remaining only a minor proportion of the total population. The garnet is dominantly red to purplish red and its chemistry suggests similar G-10 populations as Tango-1 (Figure 1.1). The chromite analysis indicate several grains falling within or close to the field of chromite intergrown with diamond and several grains on the edge of the field defining compositions of chromite included in diamond (Figure 1.1). Ilmenite compositions mimic those obtained on the Tango-1 suite, ranging from somewhat oxidized to reduced. The diamond potential of Tango-Extension would appear similar to that of Tango-1. Ilmenite is relatively abundant in the sample while chromite is scarce. Several grains of chrome diopside were recovered from the concentrate.

Uniform-1

The Uniform-1 kimberlite is located at approximately latitude 52°52′48″N, longitude 83°54′36″W, and displays a circular isomagnetic anomaly approximately 200 m in diameter (Figure 1.7). The anomaly on Figure 1.7 is in two parts and it is uncertain whether this reflects the method of isomagnetic contouring or whether the kimberlite may consist of two very closely spaced bodies. Kong, Boucher and Scott-Smith (1999) report that Uniform-1 has a strong remnant magnetic component (–750 nT) with a weak positive susceptibility oriented toward the magnetic north. The Uniform-1 kimberlite was tested with one diamond drill hole, U-1-88, totalling 634 feet (192.7 m) (Resident Geologist's office, Timmins, assessment files). The drill log indicates the hole intersected hypabyssal macrocrystic kimberlite from top to bottom and only a few Paleozoic xenoliths were present (Resident Geologist's office, Timmins, assessment files). The drill log indicates garnet, ilmenite and chrome diopside were recognized in the core. Two thin sections examined by the author indicated an altered hypabyssal kimberlite (Photos 17 and 18).

Garnet is not abundant in the heavy mineral concentrate and is dominated by red grains. Dark purple, purple and orange garnet is present by in subordinate amounts. The Uniform-1 garnet suite contains one of the highest concentrations of G-10 garnets found within the Attawapiskat cluster (Figure 1.1). Chromite is not as abundant as ilmenite and the composition of most chromite grains lie away from the fields of chromite intergrown with diamond and chromite included in diamond (Figure 1.1). The ilmenite compositions are variable and range from compositions considered to be oxidized to those that represent reducing magmatic conditions (Figure 1.1). Chrome diopside was not recovered from the concentrate and some of the olivine had a pinkish tinge rather than typical green colour. While the garnet geochemistry appears interesting, the chromite and ilmenite geochemical data are less encouraging.

Victor-1

The Victor-1 kimberlite is the largest kimberlite within the Attawapiskat cluster having a surface area of approximately 18.0 ha (Resident Geologist's office, Timmins, assessment files). The kimberlite is located at approximately latitude 52°49′14″N, longitude 83°52′46″W, and has a very irregular circular isomagnetic pattern with a maximum diameter of 800 m (Figure 1.7). Closure on the isomagnetic contours within the anomaly suggests that it is a composite intrusion with possibly as many as three intrusive events (Figure 1.7). Detailed ground magnetic surveys completed before bulk sampling in 1997 confirmed that the kimberlite is likely two very closely spaced discrete bodies whose internal isomagnetic contour patterns, consisting of a series of highs and lows, suggest each is a complex multiphase intrusion (Resident Geologist's office, Timmins, assessment files). The Victor-1 kimberlite was tested by four vertical holes in 1988, V-1-88 through V-4-88, and four vertical holes in 1989, V-1-89 through V-4-89, totalling 4150.0 feet (1261.6 m) (Resident Geologist's office, Timmins, assessment files). In 1997, Monopros Ltd. completed an additional 25 reverse circulation holes, totalling 1301.2 m, from which a bulk sample weighing 28 201.4 kg was recovered (Resident Geologist's office, Timmins, assessment files). The diamond drill logs indicate a hypabyssal macrocrystic to hypabyssal segregationary kimberlite locally containing Paleozoic limestone xenoliths or Paleozoic limestone breccia (Resident Geologist's office, Timmins, assessment files). The drill logs indicate garnet, ilmenite and clinopyroxene megacrysts were observed, and in addition to the Paleozoic xenoliths, basement and mantle xenoliths were present, but not abundant. Examination of two thin sections indicated the presence of hypabyssal kimberlite (Photos 19, 20 and 21).

A reverse circulation sample contained autoliths in addition to the previously recognized xenolith suite (Resident Geologist's office, Timmins, assessment files). Fresh olivine was reported as abundant and as for the principal indicator minerals, ilmenite is the most common, followed by garnet and then chrome diopside. (Resident Geologist's office, Timmins, assessment files). The garnet commonly displayed kelyphite rimming.

Kong, Boucher and Scott-Smith (1999) subdivided Victor-1 into Victor-North and Victor-South and completed detailed work on the intrusion. The xenolith content is low, derived from the pipe walls, and concentrated near the walls of the pipe(s) (Kong, Boucher and Scott-Smith 1999). Kong, Boucher and Scott-Smith (1999) report that both kimberlite bodies are similar in composition and composed of poorly sorted clast-supported discrete grains of olivine and magma clasts. The magma clasts contain vesicles filled with serpentine and consist of olivine set in a groundmass of carbonate laths, carbonate, spinel and perovskite (Kong, Boucher and Scott-Smith 1999). Groundmass differences between magma clasts suggest different eruptive phases and this groundmass is composed primarily of serpentine and carbonate (Kong, Boucher and Scott-Smith 1999). In hole V-8-89, bedding dipping 10 to 45° was observed and clast size within the beds varied from less than 2 to 10 mm (Kong, Boucher and Scott-Smith 1999). Limited normal graded bedding reported from the intrusion was from less than 1.0 to 2 m thick. Most of the fabric in the drill core is horizontal and defined by elongate phlogopite grains and limestone xenoliths (Kong, Boucher and Scott-Smith 1999). In the northern part of the intrusion, hole V-3-88 contained brown perovskite, not noted in other drill holes, after penetrating 42 m of limestone suggesting that this is a completely different kimberlite phase which may not have reached surface (Kong, Boucher and Scott-Smith 1999).

Garnet in the heavy mineral concentrate displayed dark purple, purple, red and orange colours. The dark purple and orange colours were the least common. The geochemistry of the garnets indicate an almost exclusively G-9 assemblage with several grains falling on or just across the 85% line (Figure 1.1). Chromite is uncommon and has a chemistry that falls outside the fields of chromite intergown with diamond or of chromite included in diamond (Figure 1.1). The ilmenite geochemistry indicates a reduced suite (Figure 1.1). The absence of G-10 garnet and chromite compositions falling well outside the field of more interesting chemistry would suggest that Victor-1 is perhaps one of the less interesting kimberlite pipes in the Attawapiskat cluster. The ilmenite compositions are acceptable to the kimberlite magma being reduced and favourable for diamond preservation.

Monopros Ltd. recovered 96 macrodiamonds (>1.0 mm) from the 28 201.4 kg sample collected in 1997 indicating that the Victor-1 pipe is very promising. These results also mean that pipes within the cluster displaying an indicator mineral chemistry interpreted to be less promising under current modeling concepts need to be re-evaluated in the context of the Victor-1 results.

Whiskey-1

Whiskey-1 kimberlite is located at approximately latitude 52°48′34″N, longitude 83°51′50″W, and displays a circular magnetic anomaly of approximately 150 m diameter (Figure 1.7). In 1988, vertical diamond drill hole W-1-88 was completed to a depth of 400 feet (121.6 m) and, in 1989, 4 inclined (–45°) holes (W-2-89 through W-5-89) were completed from the centre of the geophysical anomaly in a north, south, east and west direction (Resident Geologist's office, Timmins, assessment files). This inclined drilling totalled 1115 feet (340 m) and was designed to test the limits of the intrusion. The drill logs indicate a hypabyssal macrocrystic kimberlite with some limestone xenoliths and all inclined holes terminated in brecciated limestone outlining the kimberlite as a relatively small body (Resident Geologist's office, Timmins, assessment files). A short reverse circulation drill hole (28.5 m) was completed in 1997 for the purpose of collecting material for mineralogical study (Resident Geologist's office, Timmins, assessment files). A typical kimberlite indicator mineral suite was noted in the core (Resident Geologist's office, Timmins, assessment files). Two thin sections prepared from reverse circulation chips indicated an altered hypabyssal kimberlite.

The heavy mineral concentrate is mostly olivine and pyrope garnet is not abundant. The garnet is dominantly red to purple in colour with dark purple and orange colours being uncommon. Several grains of garnet are a pale pink in colour and kelyphite coating of the garnet is rare. Chromite is rare and present both as sharp brilliant lustered and dull lustered octahedra. Ilmenite is common as single and polycrystalline grains sometimes coated with white leucoxene. Chrome diopside was common and trace to minor amounts of orthopyroxene and amphibole were recovered from the concentrate.

The composition of the garnet suite suggests that relative to most kimberlites in the Attawapiskat cluster, the Whiskey-1 contains a higher number of G-10 garnets than most (Figure 1.1). The chromite compositions fall outside the field of chromite intergrown with diamond and chromite included in diamond (Figure 1.1). Figure 1.1 also indicates that the ilmenite compositions suggest that the Whiskey-1 magma was reduced, but perhaps not as reduced as magma associated with some other pipes in the cluster. The indicator mineral chemistry indicates this kimberlite pipe is of interest, but perhaps not as interesting as others in the cluster.

X-Ray

The X-Ray kimberlite pipe is located at approximately latitude 52°47'45"N, longitude 83°51'05"W, and was penetrated by one vertical diamond drill hole X-1-88, totalling 742 feet (225.6 m) (Resident Geologist's office, Timmins, assessment files). The drilling disclosed a hypabyssal macrocrystic to hypabyssal segregationary macrocrystic kimberlite with limestone xenoliths (Resident Geologist's office, Timmins, assessment files). Autoliths and garnet, chrome diopside, ilmenite and olivine megacrysts are noted in the drill log. Thin sections disclosed an altered hypabyssal kimberlite with crustal xenoliths.

In 1997, the kimberlite was resurveyed using a ground magnetometer, disclosing a pipe of approximately 4.23 ha surface area and an isomagnetic contour pattern suggesting it is a multiple phase intrusion (Resident Geologist's office, Timmins, assessment files). Twelve reverse circulation holes, totalling 966.3 m, were drilled into the kimberlite to recover 22 195.0 kg of material; all of which was collected below the 66 m level (Resident Geologist's office, Timmins, assessment files).

Pyrope garnet was not abundant in the heavy mineral concentrate from this pipe and was dominantly purple in colour. Ilmenite was abundant and chromite rare. Chrome diopside is present, however, most of the concentrate consisted of olivine. The geochemical plots (Figure 1.1) of the garnet compositions indicate the presence of some G-10 garnets, but most are G-9. Ilmenite compositions display a tight clustering of data and indicate that the ilmenite is a product of a reduced kimberlite magma favourable to diamond preservation (Figure 1.1).

Fifteen macrodiamonds (>1.0 mm) were recovered from the bulk sample, but additional work on the pipe was not recommended (Resident Geologist's office, Timmins, assessment files).

X-Ray-1

The X-Ray-1 kimberlite pipe is located at approximately latitude 52°42'52"N, longitude 83°47'58"W, and has been tested by one vertical diamond drill hole, X1-1-89, totalling 122 m (400 feet) (Resident Geologist's office, Timmins, assessment files). The kimberlite displays a circular to somewhat oval isomagnetic contour pattern approximately 100 m in diameter (Figure 1.7). The drill log indicates a hypabyssal macrocrystic kimberlite with limestone xenoliths (Resident Geologist's office, Timmins, assessment files). Basement and mantle xenoliths were noted along with megacrysts of ilmenite, garnet and chrome diopside. Thin sections indicated an altered hypabyssal kimberlite (Photo 22).

The concentrate is dominantly olivine. Garnet is scarce and chromite rare. The garnet is dominated by purple or lilac colours, red is common and orange colours largely absent. Ilmenite is relatively abundant and polycrystalline grains are rare. Chrome diopside is present along with abundant olivine.

The garnet geochemistry indicates pyrope garnets of G-10 composition are rare and the chromite compositions do not fall within the fields of chromite intergrown with diamond or chromite inclusions within diamond (Figure 1.1). Ilmenite compositions display much more scatter than ilmenite compositions found within X-Ray suggesting a more complex magmatic history. The X-Ray-1 ilmenites suggest a kimberlite magma with more oxidizing characteristics than ilmenite found in X-Ray (Figure 1.1). The geochemistry of X-Ray-1 does not appear as favourable to diamond preservation as the geochemistry of X-Ray.

Yankee-1

The Yankee-1 kimberlite is located at approximately latitude 52°46'27"N, longitude 83°52'19"W, and has been identified by one vertical diamond drill hole, Y-1-89, totalling 122 m (400 feet) (Resident Geologist's office, Timmins, assessment files). The drill log indicates that the hole intersected hypabyssal macrocrystic kimberlite. Autoliths, mantle xenoliths, basement xenoliths and megacrysts of garnet, ilmenite, phologpite, clinopyroxene and olivine were noted on the drill log (Resident Geologist's office, Timmins, assessment files). The isomagnetic contour map for Yankee-1 indicates a circular to somewhat elliptical magnetic anomaly of approximately 150 m diameter (Figure 1.7). Thin sections prepared from the drill core indicate an altered hypabyssal kimberlite.

The heavy mineral concentrate was dominated by olivine but almost 10% was ilmenite. Garnet was uncommon and dominated by shades of purple. Some garnet of G-10 composition is present, but most are G-9. There is a significant amount of garnet that has little if any chrome and is thus comparable to the garnet suite of India-1 (Figure 1.1). The chromite population failed to disclose compositions close to those that characterize chromite intergrown with diamond or included within diamond (Figure 1.1). Figure 1.1 indicates that the ilmenites have a highly variable composition that suggests a kimberlite magma varying from oxidizing to reducing conditions. Pyroxene was not recovered from the sample material tested.

The indicator mineral geochemistry of Yankee-1 is not as promising as the chemistry from some other kimberlites within the Attawapiskat cluster. Kong, Boucher and Scott-Smith (1999) reports that Yankee-1 has so far failed to produce diamond. This is the only kimberlite within the cluster along the Attawapiskat River that has not produced a diamond upon testing.

Zulu-1

The Zulu-1 kimberlite is located at approximately latitude 52°43'31"N, longitude 83°50'08"W, and was identified by one vertical diamond drill hole, Z-1-89, totalling 122 m (400 feet) (Resident Geologist's office, Timmins, assessment files). The isomagnetic contour map for the kimberlite suggests a circular to oval-shaped anomaly of approximately 200 m diameter (Figure 1.7). The log for the diamond drill hole indicates a hypabyssal macrocrystic kimberlite and kimberlite breccia with a globular segregationary zone (Resident Geologist's office, Timmins, assessment files). Limestone xenoliths are present as well as autoliths, basement xenoliths and mantle nodules. Phlogopite, ilmenite, and chrome diopside megacrysts were recorded (Resident Geologist's office, Timmins, assessment files). Two thin sections prepared from a short piece of drill core indicated an altered hypabyssal kimberlite (Photo 23).

In 1997, a detailed ground magnetic survey and 7 reverse circulation holes were completed from which a bulk sample weighing 12 788.7 kg was recovered (Resident Geologist's office, Timmins, assessment files). This drilling totaled 511.5 m. The detailed geophysical survey suggests that the Zulu-1 pipe is actually two closely spaced pipes with an aggregate surface area of approximately 2.18 ha (Resident Geologist's office, Timmins, assessment files).

Pyrope garnet was not abundant in the concentrate. The garnet consisted of dark purple, purple, red and orange grains with purple dominant and orange the least common. Garnet compositions are almost exclusively G-9 even though several grains are present that fall just across the 85% line (Figure 1.1). The garnet grains commonly appeared polycrystalline. The sample contained abundant ilmenite and rare chromite. Few distinct chromite octahedra were recognized. None of the chromite compositions fall within the compositional fields of chromite found intergrown with diamond or included within diamond (Figure 1.1). The ilmenite compositions display some scatter, but generally indicate a kimberlite magma with reducing characteristics (Figure 1.1). Minor amounts of clinopyroxene were recovered from the heavy mineral concentrate.

The bulk sample produced 13 macrodiamonds (>1.0 mm) and additional work was not recommended (Resident Geologist's office, Timmins, assessment files).

1.7. SUMMARY OF OBSERVATIONS ON ATTAWAPISKAT KIMBERLITES

The Early Jurassic kimberlites of the Attawapiskat area are composed of altered hypabyssal kimberlite with circular to oval isomagnetic contour patterns that seldom exceed 300 m in diameter. Olivine is by far the dominant heavy mineral in concentrates. Generally, the garnet content is low and dominated by shades of purple and red. Chromite is scarce whereas ilmenite is common to relatively abundant. The pyroxene content is highly variable between pipes. The variation in heavy mineral content and compositions between relatively closely spaced pipes in the Early Jurassic cluster suggests a very heterogeneous mantle source or undefined methods of winnowing the indicator minerals during emplacement. The chemistry of the indicator mineral suite is more promising than the suite found along the Lake Timiskaming structural zone (Sage 1996) even though it is not as positive as one would perhaps like it to be. The positive test results for diamond obtained on Victor-1 by Monopros Ltd. suggests that indicator mineral compositions should be used with caution in the Attawapiskat cluster when predicting the diamond content of a kimberlite body.

The discovery of the diamond-bearing Kyle Lake No. 1 pipe of Proterozoic age by KWG Resources Inc. – Spider Resources Inc. has identified a completely new grouping of kimberlites with a potential for containing commercial concentrations of diamond. The indicator mineral geochemistry for the single Proterozoic kimberlite, Kyle Lake No. 1, for which sample material was available, suggests a very positive environment for diamond in kimberlite intrusions of this age.

Chapter 2.
Pseudokimberlites of the James Bay Region

2.1. INTRODUCTION

Between 1979 and 1982, Selco Mining Corporation and Esso Minerals Canada in joint venture conducted an extensive diamond exploration program in the James Bay Lowlands. This work uncovered numerous mafic to ultramafic intrusions. Texturally, these rocks resemble kimberlite, but upon detailed study are considered pseudokimberlites, properly classified as tuffisitic breccias, carbonatite and alnoite (Janse et al. 1989). The recognition of these pseudokimberlites in a region along with true kimberlite is important in future diamond exploration in the region. This observation stresses the importance of petrographic examination and the obtaining of reliable analysis of the groundmass mineral phases so that intrusions can be correctly classified. While the presence of diamond in one or more of these intrusions cannot be discounted, its presence has so far not been documented. It is important to recognize that commercial diamond deposits occur only in kimberlite or olivine lamproite and thus clear identification of these rock types versus those with only a textural resemblance is important in focussing exploration and reducing exploration risk. Within the region of James Bay, there have been more pseudokimberlites found than true kimberlites and it is likely many more exist to confuse and frustrate the explorationist. For those with limited technical expertise contemplating exploration for diamond in the James Bay Lowlands, use of an experienced consultant will serve to focus on appropriate rock types, increasing exploration effectiveness and lowering costs.

2.2. LOCATION

Pseudokimberlites occur in two areas of the James Bay Lowlands. The more prominent area is north of Hearst and just north of the Missinabi River centred on the Martison carbonatite (Figure 2.1). The distribution of mafic to ultramafic diatremes almost completely enclose the carbonatite but there is no reason to believe that the mafic to ultramafic diatreme event and carbonatite emplacement are coeval. The second area of mafic to ultramafic diatreme emplacement is in the Sextant Rapids area along the Mattagami and Abitibi rivers (Figure 2.2). These intrusions are also in a region of carbonatite and alkalic rock emplacement, but, as with the Hearst occurrences, there is no evidence that the emplacement events are coeval. In both locations, it is likely that many more mafic to ultramafic intrusions remain to be identified and it is also probable that other areas within the lowlands may contain similar clusters of pseudokimberlite.

2.3. ACKNOWLEDGMENTS

Samples for the Sextant Rapids mafic to ultramafic diatremes were presented to the Ontario Geological Survey by G. Sinclair, Selco Mining Corporation, during the late 1970s and early 1980s as part of a province-wide study of carbonatite intrusions. A select group of these donated samples were analyzed for both major and minor elements, but the data was never released. In the late 1980s, J. Pirie, Esso Minerals Canada, donated thin sections and short, representative samples of diamond drill core to the Ontario Geological Survey when Esso Minerals Canada terminated their mineral exploration efforts. These samples and cores were mainly from the group of mafic to ultramafic intrusions located in the Hearst

area. In the very late 1980s to early 1990s, the James Bay material was donated to the Royal Ontario Museum for permanent archiving. With the start of the kimberlite study in 1993, the James Bay material was retrieved and the pulps from the analyzed samples removed from storage. The pulps for the analyzed samples were re-submitted for rare earth element (REE) and high-field strength element (HFSE) analyses since these elements were not part of the original analytical package. New material was not submitted for analytical study as part of the kimberlite project.

Extensive efforts were made to locate the records and analytical data generated by Selco Mining Corporation, operator for the James Bay joint venture diamond exploration program. These efforts failed and the technical reports on these rocks are from the assessment files in the Resident Geologist's office, Timmins, Ontario. These latter files do not contain the analytical and electron microprobe data completed at the time of the testing which prevents reinterpretation or revision of the geochemical classification of these bodies. No effort was made to regenerate this database from the very limited amount of material available. The number of pseudokimberlites exceeds the number of true kimberlites and because of the limitations of time, budget, sample material and absence of earlier records these intrusions will be described collectively.

Samples and thin sections will be returned to archives at the Royal Ontario Museum upon completion of this project.

2.4. PHYSIOGRAPHY

The area underlain by the mafic to ultramafic diatremes is marshy with low topography. The various intrusions are not exposed at surface and access is almost exclusively by helicopter.

2.5. FIELD PROCEDURES

The pseudokimberlites examined for this project are from sample material and technical data available from the Selco Mining Corporation – Esso Minerals Canada diamond exploration program.

2.6. PREVIOUS WORK

In the late 1970s to early 1980s, Selco Mining Corporation as project operator, in partnership with Esso Minerals Canada, completed an extensive program of exploration in the Hearst and Sextant Rapids area. Over 60 mafic to ultramafic intrusive bodies were identified and some contained indicator minerals. While textures and geochemistry of these intrusions are similar to kimberlite, mineralogical studies indicated that they were not true kimberlite (Mitchell 1997). Diamond was not recovered from any these intrusions. The exploration program conducted by Selco Mining Corporation has been discussed by Janse et al. (1986, 1989), Reed and Sinclair (1991), and Elphick et al. (1993).

In the Sextant Rapids area on the Abitibi River, Bennett et al. (1967) studied mafic to ultramafic dikes that they interpreted as kimberlite. In this same area, Brown et al. (1967) reported the presence of kimberlite indicator minerals strongly suggesting the presence of kimberlite. This occurrence remained unstudied until Butler and Edgar (1988) re-examined the occurrence and classified the intrusions as olivine melilitite and altered ultramafic sills and dikes composed of olivine + clinopyroxene + phlogopite ± melilite. The ultramafic sill has more evolved chemistry and contains nodules ranging from ultramafic of cognate origin to mantle xenoliths to limestone and sandstone fragments representing upper crust

(Butler and Edgar 1988). The rocks are derived from primitive olivine melilitite magma, possibly through fractionation of small amounts of olivine and clinopyroxene, from a metasomatized mantle source (Edgar et al. 1994). Sandford and Norris (1975) report a K/Ar isotopic age of 128 ± 18 Ma from a lamprophyre dike on the west side of the Abitibi River at Coral (Sextant) Rapids. The kimberlite indicator minerals reported by Brown et al. (1967) might have a local alnoite source. Indicator minerals that could be interpreted to be from a kimberlite source are common in some nearby alnoite intrusions such as anomaly I5-10.

2.7. GENERAL GEOLOGY

The pseudokimberlites of the Hearst area form a collar or envelope to the Martison carbonatite, but the author suspects that the pseudokimberlites and carbonatite are unrelated based on the following points. The area is underlain by Archean rocks overlain by Paleozoic cover and glacial deposits. The mafic to ultramafic intrusions cut Paleozoic cover of Upper Devonian age. The emplacement of these mafic to ultramafic rocks through a Paleozoic sequence has likely assisted in their identification by filtering out magnetic noise of the basement rocks beneath the Paleozoic section. These intrusions are not exposed and were identified by detailed airborne magnetic surveys. While the mafic to ultramafic intrusions cut the Paleozoic rocks and have a distribution that encircles the Martison carbonatite, the carbonatite lacks Paleozoic cover for a radius of 10 km and represents a topographic high in the basement (Sage 1991). The carbonatite has not been dated, but two of the nearby mafic to ultramafic intrusions have returned K/Ar isotopic ages of 152 ± 8 Ma (425-12) and 180 ± 9 Ma (42J/6-12-1) indicating emplacement in Jurassic time (Reed and Sinclair 1991).

The pseudokimberlites of the Sextant Rapids area are proximal to the Valentine carbonatite and Hecla–Kilmer alkalic rock complex, but the author suspects the pseudokimberlites and carbonatites represent unrelated events based on the following points. The Valentine carbonatite is overlain by 16 to 55 m of overburden and 71 to 101 m of Paleozoic rocks composed of Middle Devonian limestone of the Kwataboahegan formation and sandstone of the Lower Devonian Sextant Rapids formation (Sage 1988a). The Paleozoic cover indicates that the carbonatite is older than the Paleozoic rocks that are intruded by the mafic to ultramafic rocks. The Hecla–Kilmer alkalic rock complex lacks Paleozoic cover rocks and has been dated by the Rb/Sr method as being approximately 450 Ma (upper Ordovician) and thus older than the mafic to ultramafic rocks that intrude the Devonian Paleozoic rocks (Sage 1988b). Mafic to ultramafic rock anomaly I5-10 was dated by the U/Pb method for this study at 235.6 ± 2.2 Ma (L.M. Heaman, University of Alberta, unpublished data, 1998) indicating a Triassic emplacement, and Sandford and Norris (1975) reported a geochronologic age of 128 ± 18 Ma on an ultramafic dike at Sextant Rapids indicating Jurassic intrusive activity. The pseudokimberlites likely represent one or more Triassic to Jurassic events.

Pseudokimberlites of the Sextant Rapids region occur close to carbonatites of Middle Proterozoic age; (Goldray, 1884 ± 2 Ma (U/Pb)), and alkalic rock – carbonatite complexes of Late Proterozoic age; (Clay–Howells, 1072 ± 16 Ma (Rb/Sr), Sage 1988c,d). The general region of these pseudokimberlites has a long and complex history of alkalic rock – carbonatite – ultramafic rock magmatism that is not well constrained. The Sextent Rapids pseudokimberlites generally contain more abundant kimberlite indicator minerals than those occurring in the Hearst area making recognition that they are not true kimberlite more difficult.

Janse et al. (1986, 1989) and Reed and Sinclair (1991) have classified the mafic to ultramafic intrusive rocks in the Hearst area into tuffisitic breccias, alnoites and carbonatites. The James Bay Lowlands pseudokimberlites can be referred to as "melnoites", which is an acronym for melilite and alnoite (Scott-Smith 1995b). In the area north of Hearst, 34 intrusions were classified as tuffisitic breccia, 7 as carbonatites and 4 as massive alnoite (Janse et al. 1989; Reed and Sinclair 1991). The location of the intrusions north of Hearst is given in Figure 2.1. Janse et al. (1986, 1989) and Reed and Sinclair (1991) do not discuss the pseudokimberlites of the Sextant Rapids area (Figure 2.2). A compilation of the data that was submitted by Selco Mining Corporation Ltd. – Esso Minerals Canada Ltd. for assessment work credit (Resident Geologist's office, Timmins) is presented in Table 2.1. The compiled data indicate that 64 targets were tested in their diamond exploration efforts. The author could not locate the original data on which the classification is based and the listing is presented here as originally completed by the company. Brief thin section descriptions have been prepared from the very limited amount of sample material remaining. Table 2.2 presents thin section observations on samples donated by Selco Mining Corporation Ltd. Table 2.3 presents observations on samples donated by Esso Minerals Canada Ltd. The suite from Esso Minerals Canada Ltd. is dominated by samples from the Hearst area, and the suite donated by Selco Mining Corporation Ltd. is largely samples from the Sextant Rapids area.

North of Hearst, the tuffisitic breccia consists of up to 50 volume % of angular crustal rock fragments dominated by Middle Devonian limestone, but sedimentary, volcanic and metamorphic rocks are present (Janse et al. 1989). Igneous xenoliths are rare and consist of syenite and microperthitic granite (Janse et al. 1989). Janse et al. (1989) report that only one possible mantle xenolith was encountered and this had a lherzolite composition. The breccias display pelletal lapilli, which may be cored with mica, clinopyroxene or serpentinized olivine and autoliths (Janse et al. 1989). Janse et al. (1989) report megacrysts of garnet, olivine, clinopyroxene, mica and rare ilmenite. The garnet is mainly almandine and grossularite of probable crustal origin, but andradite and schorlomite are also present (Janse et al. 1989). Janse et al. (1989) report that garnet compositions comparable to that found in kimberlite are rare, two G-9 pyrope garnets and no G-10 garnets were recovered.

The clinopyroxene compositions can be compared to those found in kimberlites, however, the Al_2O_3 contents are higher than what is usually observed in kimberlite (Janse et al. 1989). The olivine is serpentinized; the rare ilmenite ranges up into MgO values typical of kimberlite, but contains no detectable Cr_2O_3 typical of kimberlite ilmenite (Janse et al. 1989). The breccia matrix consists of serpentine, carbonate and chlorite. Janse et al. (1989) report that magnetite is the most abundant spinel and that chromite, when present, usual averages 30 to 40% Cr_2O_3 which is not diagnostic of kimberlite.

The carbonatites have a brecciated texture and contain the same xenolith suite as the breccias (Janse et al. (1989). Janse et al. (1989) describe them as consisting of subrounded macrocrysts of diopside, pale-brown amphibole and serpentinized olivine in a fine-grained matrix of apatite, barite and magnetite. Janse et al. (1989) report that one intrusion had pseudomorphs of melilite. No relationship has been established between these carbonatites and the Martison carbonatite.

The alnoites are massive rocks that commonly do not contain country rock xenoliths, but contain abundant euhedral to subhedral macrocrysts of olivine, diopside and phlogopite in a matrix of zeolite, serpentine, spinel and sphene (Janse et al. 1989). Melilite was observed in several intrusions, olivine is only slightly serpentinized (Fo_{84} to Fo_{90}) and the diopside is fresh, with low Cr_2O_3 content and an Al_2O_3 range of 4 to 10% (Janse et al. 1989).

A relatively large number of thin sections have been prepared from this large grouping of psuedokimberlite intrusions. Descriptions of individual bodies are not possible and only a small number of specimens were selected to display textures observed in these mafic to ultramafic rocks. Photos 24, 25, 26, 27, 28, 29, 30, 31, 32, 33 and 34 illustrate a variety of autolith, pelletal and mineral textures observed in the psuedokimberlites of the Hearst area. In the much smaller grouping of psuedokimberlites in the Sextant Rapids area, Photos 35, 36 and 37 illustrate some of the structures and textures observed in thin sections of these rocks.

2.8. REGIONAL STRUCTURAL SETTING

The pseudokimberlites form two clusters: one north of Hearst and the other in the region of Sextant (Coral) Rapids (Figures 1.3 and 2.2). The Sextant Rapids cluster occurs where the geophysically defined extension of the Gravel River fault intersects the Kapuskasing structural zone and lies within the 325° trend across the northern portion of the province that contains clusters of true kimberlite (OGS 1991b; Sage 1996). This general region has a long history of alkalic magmatism. Within the cluster of pseudokimberlites is located the Valentine carbonatite (age unknown) and the Upper Ordovician (450 Ma) Heckla–Kilmer alkalic rock complex (Sage 1988a, 1988b). To the south, the Late Proterozoic Clay–Howells alkalic rock complex (1072 ± 16 Ma) is located, and to the east, the Middle Proterozoic Goldray carbonatite (1884 ± 2 Ma) (Sage 1988c, 1988d). Dating of the anomaly I5-10 pseudokimberlite indicates a Triassic age (235.6 ± 2.2 Ma; L.M. Heaman, University of Alberta, unpublished data, 1998) for this intrusion, possibly equivalent to other pseudokimberlites in the area. A pseudokimberlite (lamprophyre) dike at Sextant (Coral) Rapids returned an age of 128 ± 18 Ma (Sanford and Norris 1975). There is likely a minimum of 5 unrelated alkalic magmatic events within the region of the Sextant Rapids pseudokimberlites. These are 1) lamprophyres at 125 Ma (Sextant Rapids); 2) ultramafic breccia (anomaly I5-10) at 235 Ma; 3) alkalic rock at 450 Ma (Hecla–Kilmer alkalic rock complex); 4) Middle Proterozoic at 1100 Ma (Clay-Howells alkalic rock complex); and 5) Early Proterozoic (Goldray and Argor carbonatites). The alkalic rocks of the region require a systematic U/Pb isotopic study.

North of Hearst, two pseudokimberlites proximal to the undated Martison carbonatite (Figure 2.1) are mid-Jurassic (152 ± 8 Ma and 180 ± 9 Ma) in age. They are unlikely related to the Martison carbonatite. The OGS (1991b) shaded aeromagnetic map indicates many curvilinear trends splaying off and northeastward from the Gravel River fault in the area of these pseudokimberlites. These curvilinear trends may represent faults, or fractures that control the emplacement of the pseudokimberlites in the region north of Hearst. This splaying is similar to the eastward splaying at the southern end of the Winisk River fault which hosts the Early Jurassic Attawapiskat kimberlite cluster (OGS 1991a). Janse et al. (1989) have indicated that the region was selected for diamond exploration because of 1) apparent downwarping at the margin of the lowlands 20 km to the south, 2) the presence the sharply depressed Moose River Basin to the east, 3) the position of the Nagagami group of alkaline intrusions 40 km to the west, and 4) the presence of the Martison carbonatite. Over 130 anomalous aeromagnetic responses were obtained in a north to northeast direction subparallel to the linear patterns observed on regional aeromagnetic maps (Janse et al. 1989; OGS 1991b). The reader should refer to Janse et al. (1989) for a detailed discussion of the structural interpretation of geophysical data for the area.

2.9. GEOPHYSICAL EXPRESSION

The magnetic expression of the pseudokimberlites is indistinguishable from that of kimberlites (Figures 1.7 and 1.8; Sage 1996). The total field isomagnetic contour maps filed for assessment work credit by Selco Mining Corporation Limited have been compiled in Figures 2.3a, 2.3b, 2.3c and 2.3d. Records for all the anomalies drill tested by the company could not be located, so the figures are incomplete. In general, the anomalies are circular to oval in outline and several hundred metres in maximum diameter. The intensity of the magnetic anomalies is highly variable ranging from a few hundred nT to several thousand nT (Figures 2.3a through 2.3d). The vast majority of the anomalies are relatively simple circular to oval patterns, but some, such as 425-6, 42J/6-2, 42J/6-17NE, 42J/11-2-1 and 42I/4-2, are complex suggesting multiple emplacement events. Anomaly 42I/4-2 is particularly interesting for it appears nearly identical to the Notre-Dame-du-Nord (N.D.N.) No. 1 kimberlite near Cobalt (Sage 1996) which consists of 3 isomagnetic contoured lows. This anomaly, 42I/4-2, consists of two highs and one low implying multiple intrusive events that may have occurred across a polarity reversal in the Earth's magnetic field.

Anomalies 42J/11-3 and 42J/5-2B-1 occur within linear isomagnetic patterns trending at approximately 320° suggesting that the intrusions occur along a dike or within a fault or shear zone. This trend is subparallel to the regional trend of the Winisk River fault and interpreted trend of the Severn–Frontenac Arch (Figure 1.3). Janse et al. (1989) propose that the linear distribution (290°) of anomalies 425-6, 425-7, 425-8, and 425-12 reflect basement control, however, the trend defined is at a lower azimuth than most structural trends (±320°) of the region. These anomalies could lie along a series of subparallel 320° structures trending in a pattern more typical of the region. Janse et al. (1989) report that 5% of the anomalies identified in the Hearst region displayed a negative magnetic response, but apparently only two were drill tested in the diamond exploration program, that is, 42J/11-6 and 42I/5-113 (Table 2.1). Janse et al. (1989) report that the rock encountered from negatively polarized 42J/11-6 is indistinguishable from rock encountered in normally polarized intrusions. Anomalies 425-8 and 42J/11-4 in the Hearst area were also reported to exhibit some remnant magnetism (Janse et al. 1989).

In exploring the region by aeromagnetic surveys, the presence of overlying undisturbed Paleozoic sedimentary rocks was considered a favourable factor (Janse et al. 1989). The Paleozoic rocks would filter the magnetic "noise" from the basement rocks so that the magnetic signatures or the younger intrusions are more recognizable.

2.10. GEOCHRONOLOGY

Very little geochronology has been completed on the pseudokimberlites within Ontario. Potassium/argon ages on phlogopite have been obtained on two massive alnoites from the Hearst area (Janse et al. 1989; Reed and Sinclair 1991). On anomaly 425-12, an age of 152 ± 8 Ma was obtained, and, on anomaly 42J/6-12, an age of 180 ± 9 Ma (Janse et al. 1989; Reed and Sinclair 1991). The 152 ± 8 Ma age is comparable with emplacement ages for many of the kimberlites along the Lake Timiskaming structural zone (Sage 1996). The 180 ± 9 Ma age is comparable with the isotopic ages obtained on the kimberlites of the Attawapiskat area (*see* section "1.4. Geochronology"). The limited ages available suggest that the Hearst pseudokimberlites represent more than one emplacement event; these events appear contemporaneous with kimberlite intrusion in other regions of the province. The Martison carbonatite, within the Hearst cluster of pseudokimberlites, is undated and may be a much older body unrelated to the pseudokimberlite events as reasoned above. A second undated carbonatite (Albany Forks) lies approximately 90 km northwest of the Martison carbonatite and beneath 731 feet (222 m) of Paleozoic rocks, in part Silurian in age (Sage 1987). The closest pseudokimberlite to the Albany Forks carbonatite lies approximately 70 km to the east.

The pseudokimberlites in the Sextant Rapids area have not been isotopically dated except for anomaly I5-10. This anomaly returned a Triassic age of 235.6 ± 2.2 Ma by the U/Pb method (L.M. Heaman, University of Alberta, unpublished data, 1998). This age is not previously known among the kimberlites of Ontario. At Sextant (Coral) Rapids, Sandford and Norris (1975) have obtained a K/Ar age of 128 ± 18 Ma on a lamprophyric dike. The ultramafic alkaline dikes at Sextant Rapids lie within, or close to, the pseudokimberlites of the Sextant Rapids area. It is not clear which dike Sandford and Norris (1975) sampled with respect to those described by Edgar et al. (1994), that is, olivine-melilite-rich dike or the ultramafic lamprophyres. The age reported on this ultramafic lamprophyre is similar to the age obtained on the Notre-Dame-du-Nord (N.D.N.) No. 2 kimberlite (Rb/Sr, 125 ± 1.0 Ma) in the Cobalt area along the Lake Timiskaming structural zone (Sage 1996). The age on anomaly I5-10 and on the dike at Sextant Rapids suggests a minimum of two ages of pseudokimberlite emplacement in the region. An examination of the magnetic patterns (Figure 2.3d) of pseudokimberlite intrusions suggests that some are likely multiple phase intrusions. Anomaly 42I/4-2 consists of three isomagnetically contoured lobes; two of which are positive and the third negative, implying multiple phases emplaced across a reversal in polarity in the Earth's magnetic field. Anomaly 42I/5-8 displays a prominent elongation of 045° suggesting the possibility it is a "blow" along a dike. The elongated anomaly could also represent a fault since the trend is subparallel to the trend of faults associated with the Kapuskasing structural zone that hosts the Sextant Rapids pseudokimberlites.

The Sextant Rapids pseudokimberlites occur in proximity to the undated Valentine carbonatite that lies beneath 16 to 55 m of overburden and 71 to 101 m of Middle Devonian Kwataboahegan Formation approximately 2.0 km northeast of Sextant Rapids (Sage 1988a). Near the western limit of the pseudokimberlite cluster the Heckla–Kilmer alkalic rock complex has a Rb/Sr scatterchron displaying an approximate ago of 450 Ma (Sage 1988b).

Looking at the regional setting, the Clay–Howells alkalic rock complex lies approximately 55 km southwest of the pseudokimberlite cluster and has been dated at 1072 ± 16 Ma (Rb/Sr) (Sage 1988d), and the Goldray carbonatite lies 45 km north of east from the cluster and has been dated at 1884 ± 2 Ma (U/Pb) (Sage 1988c).

Within the Sextant Rapids area, at least 5 ages of alkalic magmatism have been recognized and more may exist. The only feature in common between these widely separated magmatic events is the fact that they have occurred within the Kapuskasing structural zone where intersected by the Gravel River fault. The ages of alkalic magmatism of this region is poorly constrained and much work remains to clearly define the number and sequence of events.

2.11. GEOCHEMISTRY

The samples provided to the Ontario Geological Survey by Selco Mining Corporation Ltd. in the late 1970s to early 1980s as part of a province-wide carbonate study were examined in thin section. Some of the more xenolith-free samples were submitted for complete chemical analysis, however, the James Bay mafic to ultramafic diatremes were not examined in detail. These analytical data were never released. These analytical data were retrieved and the remaining sample material submitted for REE and HFSE analyses. Additional material from the collection of Esso Minerals Canada Ltd. was not added to the suite. The samples and thin sections are permanently archived at the Royal Ontario Museum.

The samples are all drill core and few specimens are free of xenoliths. The major and minor element chemistry should be used with caution since it is likely that all specimens are crustally contaminated to some degree. Minor element ratios rather than absolute abundances may be the preferred method to model these intrusions. Selco Mining Corporation Ltd. – Esso Minerals Canada Ltd. used chemical data in classifying these intrusions in the early part of their kimberlite program within the James Bay Lowlands. The author could locate none of these analytical data.

Tables 2.4 and 2.5 provide details on field and laboratory sample numbers as well as analytical methods. Table 2.6 presents the analytical data. A select group of samples considered to represent the least contaminated material were submitted for both major and minor elements and a second group of xenolith-bearing material submitted only for minor element data. For those samples having major element data, CIPW normative calculations were performed using the Minpet 2.02 program. The normative results (Table 2.7) indicate that the intrusions are quartz-free and a large number contain normative nepheline and some both nepheline and leucite. Some bodies contain high proportions of normative pyroxene and others olivine plus pyroxene (Table 2.7). Most of the intrusions contain more than 1% normative apatite reflecting a relatively high P_2O_5 content, typical of alkalic intrusive rocks (Table 2.7).

Plots of normative mineralogy are presented in Figure 2.4. An orthopyroxene–clinopyroxene–olivine and a pyroxene–plagioclase–olivine plot indicates compositions equivalent to olivine gabbro and olivine norite (LeMaitre 1989). The QAPF diagram of LeMaitre (1989) indicates silica undersaturated chemistry dominated by normative compositions equivalent to phonolitic tephrite and phonolitic basalt.

A series of geochemical plots appearing in published literature were prepared for comparative purposes, but not for rigorous rock classification. A MgO/CaO versus SiO_2/Al_2O_3 plot from Rock (1991, p.87) indicates the rocks fell within the field of lamprophyres and not kimberlite (Figure 2.4). While the absolute values of the analysis can be affected by crustal contamination, the fact that all compositions fell outside the field of kimberlite is considered significant. A plot of P_2O_5 versus Ce was prepared based on Mitchell (1995a, p.277) which indicates compositions comparable to Type 2 kimberlites and off-craton kimberlites. This diagram is originally from Smith et al. (1985) who used it to subdivide kimberlites (high P_2O_5, low Ce, on-craton type 1 kimberlites) from orangeites (type 2), however, Mitchell (1995a) found that on-craton low P_2O_5, low Ce kimberlites could not be subdivided from off-craton kimberlites or type 2 kimberlites (orangeites).

A log-log plot of Ni versus Cr (Figure 2.4; Mitchell and Bergman 1991, p.318) was prepared to compare the James Bay pseudokimberlites with lamproite and type 2 (orangeite) kimberlites. This plot shows that the Ni/Cr ratios for the James Bay pseudokimberlites are not comparable to lamproite or type 2 kimberlite. A log-log plot of Nb versus Zr (Figure 2.4; Mitchell and Bergman 1991, p.326) compares the geochemistry of the James Bay pseudokimberlites with that of lamproite and minette lamprophyre. The plot indicates compositions lie external to the fields representing lamproite and minette lamprophyre compositions. The Nb versus Zr field for type 2 kimberlite (orangeite) from Mitchell and Bergman (1991, p.325, *see also* Figure 7.14) is incorporated into Figure 2.4 indicating that some of the James Bay pseudokimberlites have Nb/Zr ratios comparable with type 2 kimberlite.

A plot of Sm versus La/Yb (Figure 2.4; *see also* Mitchell and Bergman 1991, p.335, Figure 7.23) indicates most James Bay pseudokimberlites lie outside or marginal to, the main field of lamproites and several data fields of type 2 kimberlites. The James Bay pseudokimberlites display a closer affinity to minette lamprophyres, particularly those from Colima and Linhaisai (*see also* Mitchell and Bergman 1991, p.335, Figure 7.23 for field outlines). The pseudokimberlite data on Figure 2.4 lie on the fields of the Colima and Linhaisai minettes and the fields could not be illustrated.

A plot of La/Nd against Sm/Nd (*see also* Mitchell 1995a, p.291, Figure 3.29) was prepared to compare the James Bay pseudokimberlite geochemistry with type 2 kimberlite (orangeite) (Figure 2.4). The plot shows the James Bay pseudokimberlites are not comparable to most type 2 kimberlites. The geochemistry indicates that some of the James Bay pseudokimberlites are comparable with type 2 Swartruggens kimberlites. The melt-peridotite line (Fraser 1987) represents a mixture of peridotite and melt formed from a primary mantle.

In Figure 2.4, a plot of Zr/Nb versus La/Yb has been prepared. This diagram (*modified from* Mitchell 1995a, p.288, Figure 3.26) illustrates that some James Bay pseudokimberlites are comparable with type 2 kimberlite (orangeite) from Swartruggens, more rarely from Finsch, but approximately half or more fall outside the fields defined by type 2 kimberlite geochemistry.

The pseudokimberlite suite was broken up into groups of 6 intrusions for ease of plotting spider and chondrite diagrams. These plots indicate the James Bay pseudokimberlites are highly fractionated mafic to ultramafic rocks comparable to type 1 and 2 kimberlites (Mitchell 1986, 1995a; Mitchell and Bergman 1991). These plots do not distinguish Type 1 and 2 kimberlites or lamproite from kimberlite. These patterns are also similar to minette patterns (Rock 1991, p.133). In the sample suite on which complete analytical work was completed, samples 81RPS-0231, 81RPS-0214, 81RPS-0211 and 81RPS-0212 display particularly strong fractionation patterns. In that portion of the sample suite on which only minor elements were obtained, samples 81RPS-0204, 81RPS-0213, 81RPS-0228, 81RPS-0229 and 81RPS-0230 display REE enriched patterns. Samples 81RPS-0206, 81RPS-0228, 81RPS-0229 and 81RPS-0230 display extreme fractionation patterns suggesting that a discrete mineral phase was present in the sample material. The presence of high U and Nb in some of this material suggests the possible presence of perovskite and the high REE contents of some samples suggest the presence of apatite. Some samples display up to 1% or more P_2O_5 and all samples in which CIPW was calculated contain normative apatite. The highly fractionated, REE-enriched, chondrite patterns presented by Van Straaten (1989) and Pell and Hoy (1989) are characteristic of carbonatite rocks and carbonatite rocks are enriched in REE and phosphorous (Woolley and Kempe 1989).

2.12. SUMMARY

The pseudokimberlites have not been investigated in detail, and rigorous investigation will require detailed electron microprobe study of the matrix mineralogy on a large number of bodies plus a much larger body of geochronological data. This brief introduction indicates that kimberlite and pseudokimberlite intrusions cannot be distinguished on the basis of geophysical expression and that the rock geochemistry is often equivocal in subdividing the intrusions. Mineral chemistry studies will be required to make definitive classification of the rocks. The geochemical and geophysical data suggest that these highly fractionated intrusions likely represent more than one intrusive event. The geophysical data suggest that some intrusions are likely complex and polyphase and their emplacement may span a period of polarity reversal in the Earth's magnetic field.

Chapter 3.
Preliminary Examination of Differences Between a Diamond-bearing and Diamond-absent Pseudokimberlite

3.1. INTRODUCTION

Within Ontario, and in particular the James Bay Lowlands, there have been far more pseudokimberlites located than kimberlites. None of the pseudokimberlites contain diamond, but diamond is present in other similar-appearing pseudokimberlite bodies in other jurisdictions (Carlson and Adams 1997). For the explorationist, it is difficult to obtain geochemical data sets on kimberlite, and, for those rocks texturally similar to kimberlite, it is uncommon to rare to find such data. These data sets remain proprietary or in unpublished theses. It is important for those working in the remote area of James Bay, among both kimberlites and pseudokimberlite intrusions, that the two compositional groups are quickly and effectively distinguished. At present, even though a large variety of rock types are known to host diamond, only kimberlite and lamproite are known to carry diamond in sufficient volume to form commercial deposits. This region is a high-cost area for mineral exploration so the distinction between true kimberlite and other rock types may have significant financial impacts on exploration. This does not mean that pseudo- or nonkimberlites should not be investigated for diamond, but the explorationist should have accurate data on which to make a decision. Rigidly restricting diamond exploration to true kimberlite may result in overlooking diamond-bearing lamproite or other similar rock type.

Investigation of the James Bay pseudokimberlites is presently hampered by the lack of sufficient sample material to undertake heavy mineral studies, however, the limited amount of material available should be adequate to study the matrix mineralogy. Fortunately, Murgor Resources Inc. retested anomaly I5-10 in the Sextant Rapids region and a large volume of sample material was made available to the author. This anomaly contained the largest volume of indicator minerals of any intrusion tested by Selco Mining Corporation Ltd. The retesting of this anomaly was undertaken by Murgor Resources Inc. to check the significance of a diamond recovered in the initial test by Selco Mining Corporation Ltd. Natural diamond was not found in the retest and it was concluded that the diamond recovered in the original test came from the drill bit. The author recovered numerous yellow-green dodecahedra or cubo-octahedrons of artificial diamond from the Murgor sample that came from drilling equipment.

No Ontario pseudokimberlite is diamond bearing, therefore the study material analyzed was from the diamondiferous Six-Pak ultramafic intrusion in southeastern Wisconsin and was supplied by Ashton Mining of Canada Inc. Data on the diamond content of the Six-Pak intrusion has not been released. No diamond greater than 1.0 mm was recovered from the 6-Pak intrusion (S. Carlson, Mineralogist, Ashton Mining of Canada Inc., personal communication, September 1999).

The study of the heavy mineral contents of these two intrusions was undertaken to supply industry with minimal data to characterize indicator-mineral-bearing pseudokimberlite pipes.

3.2. LOCATION

The diamond-absent anomaly I5-10 is located within the pseudokimberlite cluster at Sextant Rapids (Figure 2.2). The site is approximately 25 km northwest of the rapids. The diamond-bearing Six-Pak complex is an isolated anomaly located in an urban environment at Kenosha, Wisconsin. The site is at the extreme southeastern corner of Wisconsin not far from the west shore of Lake Michigan and approximately 90 km northwest of Chicago.

3.3. ACKNOWLEDGMENTS

Sample material for anomaly I5-10 was provided by W.M. Atkins, President, Murgor Resources Inc., and the sample material from Six-Pak complex was provided by Shawn Carlson, Senior Mineralogist, Ashton Mining of Canada Inc.

3.4. PREVIOUS WORK

No geologic studies have been published on anomaly I5-10, but some exploratory work completed by Murgor Resources Inc. have been filed for assessment work credit (Resident Geologist's office, Timmins, File T-3722. Carlson and Adams (1997) outlined the discovery of the Six-Pak intrusion and are currently preparing a discussion for publication. The author appreciates having received a preliminary version of that document.

3.5. REGIONAL SETTING

The setting of anomaly I5-10 within the James Bay Lowlands is described previously in this report (*see* "2.9. Regional Structural Setting"). The historic discovery of float diamond in Wisconsin was the basis of interest for the joint venture Crystal Exploration Inc. – Ashton Mining Canada Inc. in the southeastern Wisconsin region (Carlson and Adams 1997; Cannon and Mudrey 1981). A small circular magnetic anomaly on a regional geophysical survey in the public records of Case Western Reserve University attracted the joint venture to the Kenosha area (Carlson and Adams 1997). This anomaly occurs on the west flank of the Michigan Basin near the northern border of Illinois. In southern Illinois and northwestern Kentucky, a series of mica peridotite dikes are present that have been referred to as kimberlite (Meyer 1976), but more recently as alnoite and melilitite (Lewis 1982; Mitchell 1997). Just west and a little north of the peridotite dikes in eastern Missouri, a cluster of 79 mafic to ultramafic diatremes and dikes is located in eastern Missouri (Meyer 1976). The Six-Pak intrusion occurs equidistant between the Missouri and the Michigan kimberlites. Meyer (1976) suggests that the ultramafic diatremes and dikes in western Kentucky, which would include southern Illinois and eastern Missouri, are possibly related to major northwest-trending faulting associated with the Mississippi embayment. The Michigan cluster of kimberlites straddles the juncture of Precambrian and Paleozoic rocks and appears to be related to northwest-trending regional faults (Cannon 1986; Sims and Schulz 1993). The trend of peridotite diking in southern Illinois-Kentucky and the northwest elongation of the Michigan kimberlite cluster appear subparallel and at an angle of approximately 315° rather than the 325° observed in Ontario. Relating Six-Pak complex to a northwest-trending structure, or to any structural trend, has not been undertaken.

3.6. DIATREME GEOLOGY

The I5-10 diatreme consists of friable ultramafic diatreme breccia that had to be impregnated with epoxy before thin sections could be prepared. Evidence of bedding or internal fabric was not observed. Anomaly I5-10 displays positive magnetic relief of approximately 125 nT and a diameter of approximately 550 m (Table 2.1). The retesting of the anomaly was undertaken to determine the origin of a microdiamond found in the original drilling, and it was concluded that natural diamond was not present (Downie 1994). Even though indicator minerals were not encountered down-ice from the intrusion (Downie 1994), their abundance in a nonkimberlite body that texturally resembles kimberlite, makes anomaly I5-10 an ideal body for comparing diamond-bearing with diamond-absent kimberlite and nonkimberlite rocks. Petrographic notes prepared by R.H. Mitchell accompany the report by Downie (1994) which would classify anomaly I5-10 as either 1) diatreme facies volcaniclastic melnoitic heterolithic breccia (unbiased), or 2) diatreme facies volcaniclastic melilititic heterolithic breccia (biased ,based on knowledge that the samples are from the James Bay Lowlands).

Anomaly I5-10 was drill tested by Selco Mining Corporation Ltd. with 3 closely spaced vertical drill holes (Figure 2.3d). From this drilling, the author only has the log for hole I5-10-1, totalling 157 m (Resident Geologist's office, Timmins, assessment files). A cross-section in the assessment files (Resident Geologist's office, Timmins) for Murgor Resources Inc. indicates hole I5-10-3 was 177 m deep. Murgor Resources Inc. completed hole I5-10-4 for a total of 224 m and it was material from this hole that was used for this study.

In thin section, the I5-10 diatreme consist of angular xenoliths of Paleozoic rocks set in a highly altered matrix of serpentine, chlorite and carbonate (Table 3.1). Pelletal and autolithic structures are present. Carbonized wood fragments were observed enclosed in the core samples indicating that they were part of the diatreme breccia (Photo 38). The precise depth at which the carbonized material occurred is unknown since the core was bagged and not laid out in core boxes. Bagging of core started at 107.65 m (353 feet) and continued to 215.0 m (705 feet) and consisted of a total of 4 samples. A preliminary examination of this carbonized wood suggests that the pollen present is mid-Cretaceous in age (T. White, University of Iowa, personal communication, 1999). Since the U/Pb isotopic age gives a Triassic age for the intrusion, the presence of mid-Cretaceous pollen presents an interpretation problem that warrants further study. The carbonized wood occurs within the drill core, deep within the intrusion and would not appear to be an addition to the sample by sloughing during drilling. Comparing this core with other pseudokimberlites of the James Bay region, the extreme friability of the material implies possible very deep weathering. Deep Cretaceous weathering creating up to 170 m of apatite-rich residuum is known at the Cargill carbonatite approximately 140 km southwest of anomaly I5-10 (Sandvik and Erdosh 1977). If this is an unusual Cretaceous weathering phenomena, is it unique to anomaly I5-10 or is this a feature more widespread and unrecognized? The absence of internal structures within the drill core inhibits speculation on processes that might have added the younger material to the older rock. Kong, Boucher and Scott-Smith (1999) have suggested that the kimberlites at Attawapiskat lack a diatreme facies and are the product of a phreatomagmatic process and subsequent infilling by subaerial pyroclastic lapilli tuffs and/or hypabyssal kimberlite. Perhaps the pseudokimberlites were emplaced by a similar method and subsequently partially infilled with younger material?

The heavy mineral concentrate contained abundant pyrite: common as pyritized worm(?) burrows (Photo 39), and pyrite-replaced pelecypods and cephalopods (Photo 40) along with synthetic diamonds (Photo 41). Downie (1994) reports the presence of hercynite-pleonaste, zircon, apatite, perovskite, sapphire and hematite in heavy mineral concentrates he studied. A white mineral observed by the author is reported to be barite and celestite by Overburden Drilling Management Ltd. (unpublished data, 1997). One grain of a brassy fibrous mineral observed by the author is probably millerite, but its identity was not confirmed. The heavy mineral concentrate contained scattered rounded, frosted grains of brown to orange brown almandine garnet (*see* appendix for data), interpreted here as detrital in origin and derived from a sandy layer within the Paleozoic country rocks (Photo 42). Overburden Drilling Management Ltd. (unpublished data, 1997) recovered one andradite garnet as well as synthetic diamonds.

The Six-Pak diatreme description is summarized from Carlson and Adams (1997). It has a surface area of approximately 50 acres and the upper portions of the structure consist of sequences of fossiliferous dolostone and red, bedded arenites that grade into ultramafic breccias at depth. They interpreted the upper portion of the diatreme as either crater facies rocks or formed long after diatreme intrusion. The ultramafic breccias are uniform in structure and composed primarily of serpentine, calcite, mica, and various opaques. Fresh olivine is not present and melilite, or its pseudomorph, was not recognized. Angular sedimentary xenoliths up to 5 feet (1.52 m) across are present, but basement xenoliths are rare. Autolithic fragments are present and much of the intrusion is hypabyssal in character. A sample of the intrusion was classified by Mitchell (1995c) as a heterolithic breccia derived from an ultramafic lamprophyric magma. Photo 43 displays the texture observed in the Six-Pak ultramafic diatreme.

Table 3.1 gives three brief petrographic descriptions prepared from two small samples. The observations are consistent with those reported by Carlson and Adams (1997). Comparing diamond-bearing Six-Pak complex with diamond-absent anomaly I5-10, the presence of abundant (serpentinized) olivine in Six-Pak complex and its scarcity in anomaly I5-10 is a particularly noticeable feature.

3.7. GEOPHYSICAL EXPRESSION

The geophysical expression for anomaly I5-10 is illustrated in Figure 2.3d. The anomaly is not pronounced and certainly not as intense as nearby I5-6 and I5-9 which also contain kimberlite indicator minerals, but not in the concentration observed in anomaly I5-10 (Downie 1994). The magnetic anomaly is comparable with other anomalies observed over both pseudokimberlites and kimberlites (Figures 2.3a, 2.3b, 2.3c, 2.3d, 1.7, 1.8; Sage 1996).

Regional airborne geophysics for the Six-Pak pseudokimberlite indicates a circular anomaly of approximately 0.8 km diameter (Figure 3.1). This anomaly is compatible with either pseudokimberlites or kimberlites (Figures 2.3a, 2.3b, 2.3c, 2.3d, 1.7, 1.8; Sage 1996).

3.8. GEOCHRONOLOGY

Anomaly I5-10 has a geochronologic age of 235.6 ± 2.2 Ma (U/Pb method on perovskite; L.M. Heaman, University of Alberta, unpublished data, 1997). This intrusion is Triassic, and of an age that is not known to be equivalent to any period of kimberlite emplacement. It should not be assumed that this age represents the age of all pseudokimberlites in the region of Sextant Rapids. Intrusion 42I/4-2 displays both positive and negative aeromagnetic features, and the relative intensity of the various anomalies should lead one to exercise caution in applying this age to all intrusions. The ultramafic dikes at Sextant (Coral) Rapids are part of this pseudokimberlite cluster and one of these has been dated at 128 ± 18 Ma. The Sextant Rapids isotopic age is equivalent to the latest kimberlite intrusion along the Lake Timiskaming structural zone (Sage 1996).

The diamond-bearing Six-Pak intrusion cuts Silurian rocks, but all attempts to obtain a geochronologic age for this intrusion have failed. Chlorite alteration along the (001) cleavages of phlogopite mica prevents use of the micas for dating, and attempts to obtain an age on the zircons have given unrealistic results (Carlson and Adams 1997). An age of 186 ± 5 Ma reported by Jarvis (1993) on the Michigan kimberlites indicates these kimberlites could be coeval with the Jurassic Attawapiskat kimberlites. The peridotite dikes in southern Illinois are reported by Meyer (1976) to average 257 Ma, which may closely approximate the age obtained on anomaly I5-10.

3.9. INDICATOR MINERALS PLUS AMPHIBOLE

A sample from anomaly I5-10, approximately 15 kg, was processed in the Geoscience Laboratories, Ontario Geological Survey, for kimberlite indicator minerals, and a 70.7 kg sample was sent to Overburden Drilling Management Ltd. to be processed for indicator minerals. The heavy minerals from these two tests were combined for electron microprobe study. The Six-Pak complex material was provided as a heavy mineral concentrate and required no processing. When examining the geochemical plots of the indicator minerals from pseudokimberlites, the reader should continually refer to Figure 1.1, which shows indicator mineral geochemistry from true kimberlites. Observations or conclusions made from comparing only two pseudokimberlites with kimberlites should be done with some caution, as the sample population may be too limited to be reliable. The geochemical data used to generate Figures 3.2 and 1.1 are presented in the appendix to this report, and a brief description of several thin sections presented in Table 3.1.

Garnet

Garnet from anomaly I5-10 is commonly pale purple to pink in colour, but orange-coloured varieties are present. The pale purple to pink-coloured variety is at least 10 times more abundant than the orange. The garnet has the typical blocky to bead-like form found in heavy mineral concentrates from kimberlite and sometimes traces of a kelyphite rim remain. The lack of dark to medium purple and red garnet, characteristic of many kimberlites, is particularly noticeable, but the author is unsure whether this observation could be extended throughout the region.

The diamond-bearing Six-Pak pseudokimberlite contains reddish-purple and orange pyrope garnet and the garnet appears partially dissolved or resorbed. Carlson and Adams (1997) describe the red and orange garnet as being strongly etched, skeletal, deeply corrosion sculptured and with internal decomposition channels. The author has not observed such garnet morphology in kimberlites nor was it present in the I5-10 pseudokimberlite. For the present, this feature is assumed to be characteristic only of the Six-Pak intrusion. Carlson and Adams (1997) interpret the pyrope garnets to represent a chrome-poor megacryst suite although minor eclogitic and granulitic garnets may be present.

A Cr_2O_3 versus CaO plot for anomaly I5-10 and Six-Pak complex (Figure 3.2) should be compared to Figure 1.1 which illustrates a large number of Cr_2O_3 versus CaO plots for James Bay Lowlands kimberlites. The Cr_2O_3 versus CaO plots for the pseudokimberlites display a shift away from the 85% line whereas the plots for kimberlites occur along or straddle the line. This shift to the right from the 85% line in the pseudokimberlites is pronounced and is consistent with current interpretations of garnet geochemical data, which suggests such compositional suites will not contain diamond or will contain subeconomic diamond concentrations (Figure 3.2). The shift is more pronounced with diamond-absent anomaly I5-10 than with diamond-bearing Six-Pak complex. This shift may be related either to intrusive type or nature of the underlying mantle.

Chromite

The chromite found in anomaly I5-10 occurs as small, less than 0.6 mm, octahedra and deformed octahedra. Chromite is not abundant and may display both brilliant and dull lustre. The chromite for Six-

Pak complex is mostly dull lustered octahedra, slightly etched and only rarely will it display a bright lustre.

Chromite composition plots for anomaly I5-10 and Six-Pak complex show that diamond-absent anomaly I5-10 data plot farther from the fields of chromite in diamond intergrowths and inclusions in diamond than diamond-bearing Six-Pak complex. Comparing Figure 3.2 with Figure 1.1, the chromite suite for anomaly I5-10 falls well outside the fields of chromite compositions associated with diamond, and is shifted to the right toward higher MgO contents than chromite associated with kimberlite. The chromite compositions for the diamond-bearing Six-Pak suite are more promising than those for anomaly I5-10, but they both fall well outside the field of chromite associated with diamond. The compositions of the chromite suites for anomaly I5-10 and Six-Pak complex are consistent with currently accepted modelling that intrusions with a chromite population plotting outside the fields designated as favourable to the presence of diamond will not contain diamond or will contain diamond in subeconomic quantities.

Ilmenite

In anomaly I5-10, the ilmenite forms small grains, commonly less than 0.6 mm, which may be coated with white leucoxene. Most of the nonoctahedral, black-oxide minerals picked for electron microprobe analysis as ilmenite were identified as chromite. Only 1 in 6 of the grains picked as ilmenite turned out to be ilmenite upon analysis. In Six-Pak complex, the ilmenite occurs as individual grains and as polycrystalline aggregates of small grains. Carlson and Adams (1997) report that the ilmenite contains between 3.7 and 9.8 weight % MgO and with these low values, along with low Cr_2O_3, the ilmenite compositions are more characteristic of lamprophyre than kimberlite.

Figure 3.2 shows an oxidized ilmenite suite for anomaly I5-10 and a much less oxidized suite for the diamond-bearing Six-Pak complex. Due to chrome depletion, neither suite is comparable to chromite obtained from kimberlite (Figure 1.1). While diamond-bearing Six-Pak complex is less oxidized than anomaly I5-10, neither ilmenite suite displays a reduced chemistry considered particularly favourable for diamond preservation. This is consistent with the current use of ilmenite data to determine the oxidation state of a kimberlite pipe. The current interpretation of ilmenite compositional data is that the more reduced the ilmenite, the better the chances for diamond preservation.

Chromian Diopside

Green to dark green clinopyroxene is common in anomaly I5-10. The dark green colour, good cleavage and possible parting give it the appearance of amphibole. A dark green and a light green variety were picked and mounted. Upon electron microprobe analysis, both colours proved to be chrome diopside and the data are presented in the appendix to this report. Carlson and Adams (1997) report chrome diopside as rare in the Six-Pak intrusions and all grains picked for analysis were amphibole (*see* appendix for data). Since clinopyroxene data cannot be currently modelled in the context of diamond preservation, it is only presented in the appendix of this report.

Amphibole

Primary amphibole is relatively rare in kimberlite, but has been recovered from the Morrisette Creek kimberlite (Sage 1996). Electron microprobe analysis of this amphibole had not been completed by the time the report on the Lake Timiskaming structural zone kimberlites was released (Sage 1996), but these data have been recently released (Sage 2000). This amphibole is prismatic, apple green in colour and occurred in the 2.9 to 3.2 density concentrate. The colour is in sharp contrast to the dark green, greenish black to black amphibole that is common in some samples and interpreted to be of crustal origin. The author considers this green amphibole to be a late-stage magmatic product of the kimberlite or as being from modally metasomatized mantle rocks as suggested by Carlson and Adams (1997) for Six-Pak complex.

The Six-Pak mafic to ultramafic intrusion contains prismatic green amphibole, which has been interpreted by Carlson and Adams (1997) as being from modally metasomatized mantle rocks. The presence of amphibole in a kimberlite and in a pseudokimberlite offers a chance for comparing compositions. Figure 3.3 presents the mineralogical comparison of the Morrisette Creek and Six-Pak amphiboles. Figure 3.3 was prepared based on the classifications of Leake et al. (1997) and Droop (1987). The amphiboles on a calcic group plot for the Morrisette Creek kimberlite display a very tight clustering while a similar plot for Six-Pak complex shows a much greater spread of data and a more alkalic character. The kimberlite amphibole tends to be paragasitic and the Six-Pak complex edenitic (Figure 3.3). A plot of the Six-Pak complex data on a sodic-calcium diagram indicate amphiboles of magnesiokatophorite and richterite composition. Amphiboles from pseudokimberlites may display a more alkalic nature than those from kimberlites, however, the sample population of two is too small to make a definitive statement.

Spinels

As an additional means of comparing anomaly I5-10 and Six-Pak complex with kimberlites, two cation ratio plots were prepared using spinel mineral chemistry. The plots were modelled after Figures 2.84 and 2.86 *in* Mitchell (1995a) and the cation ratios calculated using the Minform program in MS Excel. Oxide and mica electron microprobe chemistry is presented in Table 3.2. Within anomaly I5-10, the spinels appear to be magnetite and, in Six-Pak complex, the spinels are chrome-rich magnetite and chromite.

Mitchell (1986, 1995a) describes two magmatic trends in the spinel prism using the cation ratio plot of $Fe_T^{+2}/((Fe_T^{+2}+Mg)$ versus Ti/(Ti+Cr+Al). Trend 1 is considered as the characteristic spinel compositional trend for archetypal kimberlite, while trend 2 is uncommon in archetypal kimberlite and insufficiently characterized (Mitchell 1995a). Kimberlite of trend two is orangeite (Type 2) and crystallizes abundant phlogopite (Mitchell 1995a). Phlogopite is present in both anomaly I5-10 and Six-Pak complex. Phlogopite in the pseudokimberlites would appear to be more abundant than what has been observed by the author in most kimberlites. The anomaly I5-10 and Six-Pak complex spinels plot in trend 2 (Figure 3.4a). The patterns are not typical of archetypal kimberlite. The spinel compositions for anomaly I5-10 from the Sextant Rapids area display a distribution of compositions similar to that reported by Elphick et al. (1993).

A cation plot using the ratios of Cr/(Cr+Al) versus Ti/(Ti+Cr+Al) indicates that anomaly I5-10 falls outside the kimberlite trend and most of the Six-Pak complex data lie outside as well (Mitchell 1995a; Figure 3.4b). Both anomaly I5-10 and Six-Pak complex would likely be classified as an ultramafic lamprophyre on this diagram (Figure 3.4b).

Electron microprobe chemistry of mica grains from anomaly I5-10 and Six-Pak complex are plotted on Figure 3.5. The data suggests a closer association with minette or alnoite than kimberlite or orangeite.

3.10. SUMMARY

Garnet, chromite and ilmenite compositions for diamond-absent anomaly I5-10 and diamond-bearing Six-Pak complex are consistent with current models suggesting the absence of diamond or, at best, its presence in subeconomic amounts. The presence in Six-Pak complex of more favourable mineral chemistry and diamond than in anomaly I5-10 is consistent with modern interpretations of mineral data and consistent with the diamond being present in subeconomic concentrations. The chemistry of these three indicator mineral suites is sufficiently distinct from that considered to be favourable to diamond preservation that an investigator would be hesitant to recommend these intrusions as a favourable target for diamond. These indicator mineral suites are xenocrysts and could not be used to properly classify the intrusion as kimberlite or pseudokimberlite. Classification must be based on matrix mineral compositions.

Chapter 4.
Recommendations for Future Study, Conclusions and Recommendations for Exploration

4.1. RECOMMENDATIONS FOR FUTURE STUDY

The Early Jurassic kimberlites near the Attawapiskat River need an electron microprobe study of matrix mineralogy. The dating of the Early Jurassic kimberlites has proven very difficult and additional attempts should be made when large bulk samples are available and a heavy mineral concentrate is made. It is unlikely that this cluster was completely emplaced exactly at 180 Ma and a range of ages can be anticipated. The extensive alteration and general rarity of perovskite in the kimberlite matrix has inhibited geochronologic analysis of the pipes.

One of the Proterozic kimberlites has been examined in detail. The remaining Proterozoic kimberlites require much additional electron microprobe study of the matrix mineralogy and considerable additional geochronology. The alteration and absence of perovskite in the Proterozoic pipes renders geochronologic analysis difficult to almost impossible. It is likely that the emplacement of the Proterozoic kimberlites spans a period of geological time and it remains unclear as to what structural features controlled their emplacement.

The pseudokimberlites of the James Bay region require a great deal of additional work. The geochemical data generated by Selco Mining Corporation Ltd. could not be located and it would be of considerable benefit to the understanding of the geology of the region if these data could be located and become part of the public record.

A systematic study of the matrix mineralogy of a large number of the pseudokimberlite bodies would be of great assistance in proper classification of the intrusions. The existing age data are too meager to be properly interpreted. Considerable additional effort is needed in properly defining the ages of the pseudokimberlite intrusions. Some pseudokimberlites appear coeval with kimberlite emplacement, while others do not. The variation in magnetic response suggests the pseudokimberlites are sometimes multiphase intrusions, and their emplacement may have spanned a reversal in polarity in the Earth's magnetic field. The volume of sample material remaining is too limited to complete indicator mineral studies and, perhaps, U/Pb geochronology, but sufficient material is available to undertake a matrix mineralogy study and Rb/Sr age determination on the micas.

A U/Pb geochronological study of the alkalic rocks in the region of Sextant Rapids is needed. Possibly five alkalic intrusive events have occurred in this region.

4.2. CONCLUSIONS

1. The Early Jurassic kimberlites found near the Attawapiskat River occur within the Winisk River fault, which separates the Winisk River Subprovince from the Sachigo Subprovince of the Superior Province.

2. The Early Jurassic kimberlites occur where the northwest-trending Winisk River fault splays toward the east and where a geophysically inferred, northeast-trending diabase dike passes immediately north of the kimberlite cluster.
3. The Proterozoic kimberlites are restricted to the Sachigo Subprovince of the Superior Province.
4. The structural control for Proterozoic kimberlites has not been defined, but, based on the age of Kyle Lake No. 1, may be related to midcontinent rifting.
5. The Kyle Lake No. 1 kimberlite, of Proterozoic age, displays evidence of crustal contamination and this observation may extend to other kimberlites of this age group.
6. The Kyle Lake No. 1 kimberlite displays the greatest concentration of G-10 garnets found in any Ontario kimberlite and contains significant diamond.
7. The Early Jurassic kimberlites, as a group, display better indicator mineral chemistry than the kimberlites found along the Lake Timiskaming structural zone (Sage 1996).
8. The relatively high diamond content of the Victor-1 pipe is perhaps better than the indicator mineral geochemistry would suggest.
9. Comparing the indicator mineral geochemistry of the Proterozoic age Kyle Lake No. 1 pipe to the indicator mineral chemistry of the Early Jurassic pipes suggests that the Proterozoic age pipes may display better mineral chemistry.
10. Detailed studies by Kong, Boucher and Scott-Smith (1999) have indicated that the Early Jurassic kimberlites consist of spinel carbonate kimberlite and monticellite kimberlite.
11. Kong, Boucher and Scott-Smith (1999) classified the kimberlites as subaerial pyroclastic lapilli tuffs and/or hypabyssal kimberlite and suggested that the carbonate-rich kimberlite magmas that were dominant throughout the Early Jurassic cluster are unusual. Diatreme facies kimberlite is absent.

4.3. RECOMMENDATIONS FOR EXPLORATION

1. Additional kimberlite intrusions are likely to be found within the Early Jurassic cluster along the Attawapiskat River, but they are likely to be relatively small.
2. There are likely many more Proterozoic kimberlites to be found.
3. The Proterozoic kimberlites occur beneath Paleozoic cover and can only be located using geophysical techniques. This contrasts with the Early Jurassic pipes where indicator mineral trails can be used to identify the presence of kimberlite before applying geophysical methods for target identification.
4. On the basis of the limited amount of indicator mineral geochemistry on Proterozoic pipes, the indicator mineral chemistry appears more promising for the presence of diamond than that for the Early Jurassic pipes.
5. The presence of significant diamond content in Victor-1 suggests that indicator mineral chemistry should only be used as a guide. Bulk sampling may be required before a kimberlite can be designated as unpromising.
6. At the northwest end of the Winisk River fault, geophysics suggests that the fault horsetails to the west. Geophysically, this region appears similar to the region hosting the Attawapiskat kimberlite cluster. This region should be investigated to determine whether kimberlite indicator mineral trails can be identified.
7. The possibility that intrusions of lamproite composition occur beneath the Paleozoic cover rocks may offer another target for diamond exploration in the region.

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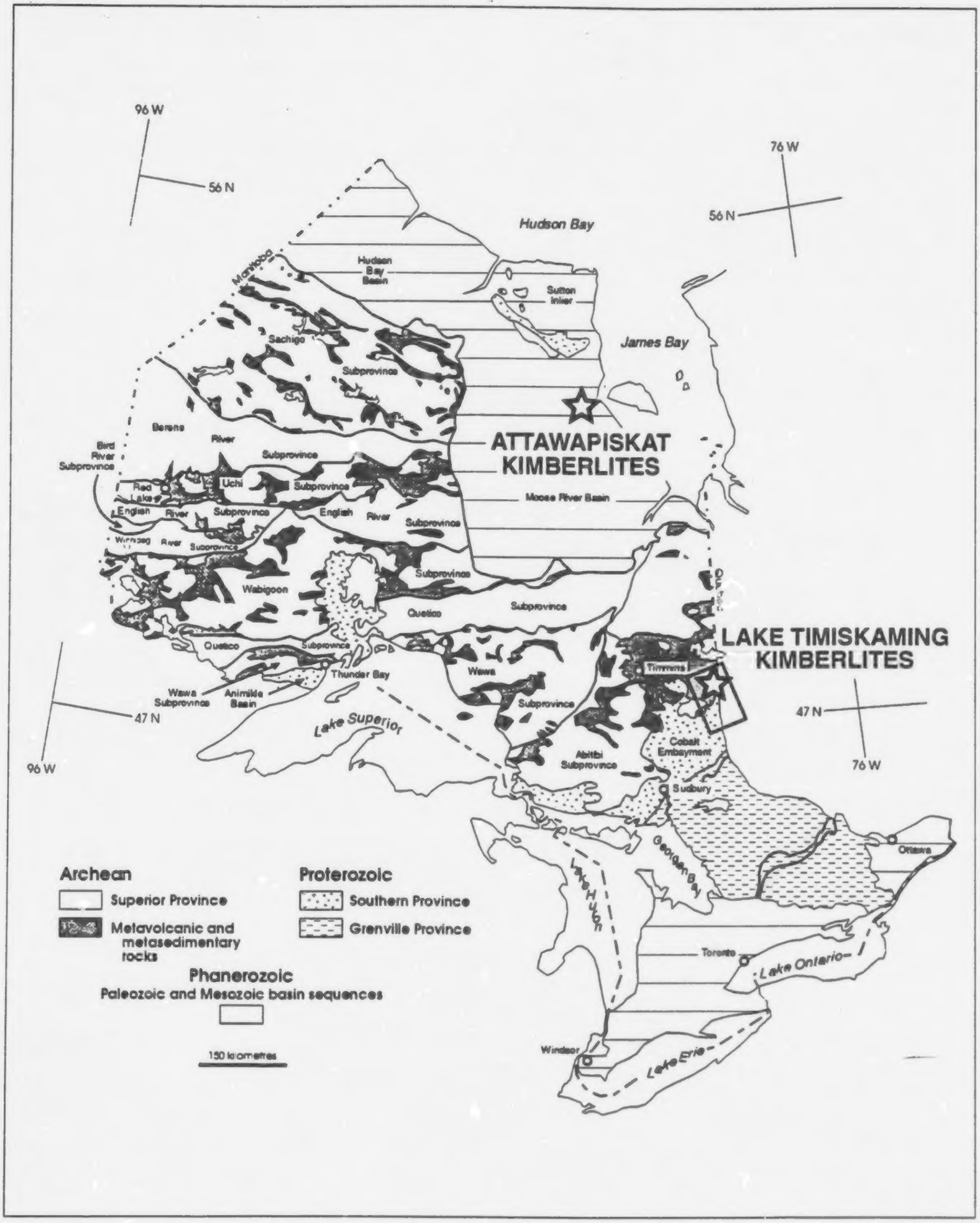

96 W
56 N
76 W
56 N
Hudson Bay
Hudson Bay Basin
Sutton Inlier
James Bay
Manitoba
Sachigo
Subprovince
Berens
River
Subprovince
Bird River Subprovince
Red Lake
Uchi
Subprovince
English River Subprovince
English River Subprovince
Winnipeg River Subprovince
Wabigoon
Subprovince
Quetico
Subprovince
Quetico
Subprovince
ATTAWAPISKAT KIMBERLITES
Moose River Basin
Quebec
LAKE TIMISKAMING KIMBERLITES
Timmins
Wawa
Subprovince
Abitibi Subprovince
Wawa Subprovince
Animikie Basin
Thunder Bay
Lake Superior
47 N
96 W
47 N
76 W
Cobalt Embayment
Sudbury
Ottawa
Georgian Bay
Lake Huron
Toronto
Lake Ontario
Windsor
Lake Erie
Archean
Superior Province
Metavolcanic and metasedimentary rocks
Proterozoic
Southern Province
Grenville Province
Phanerozoic
Paleozoic and Mesozoic basin sequences
150 kilometres

Figure 1.0. Index map showing the location of kimberlite occurrences within the James Bay Lowlands (*modified from* Sage 1997).

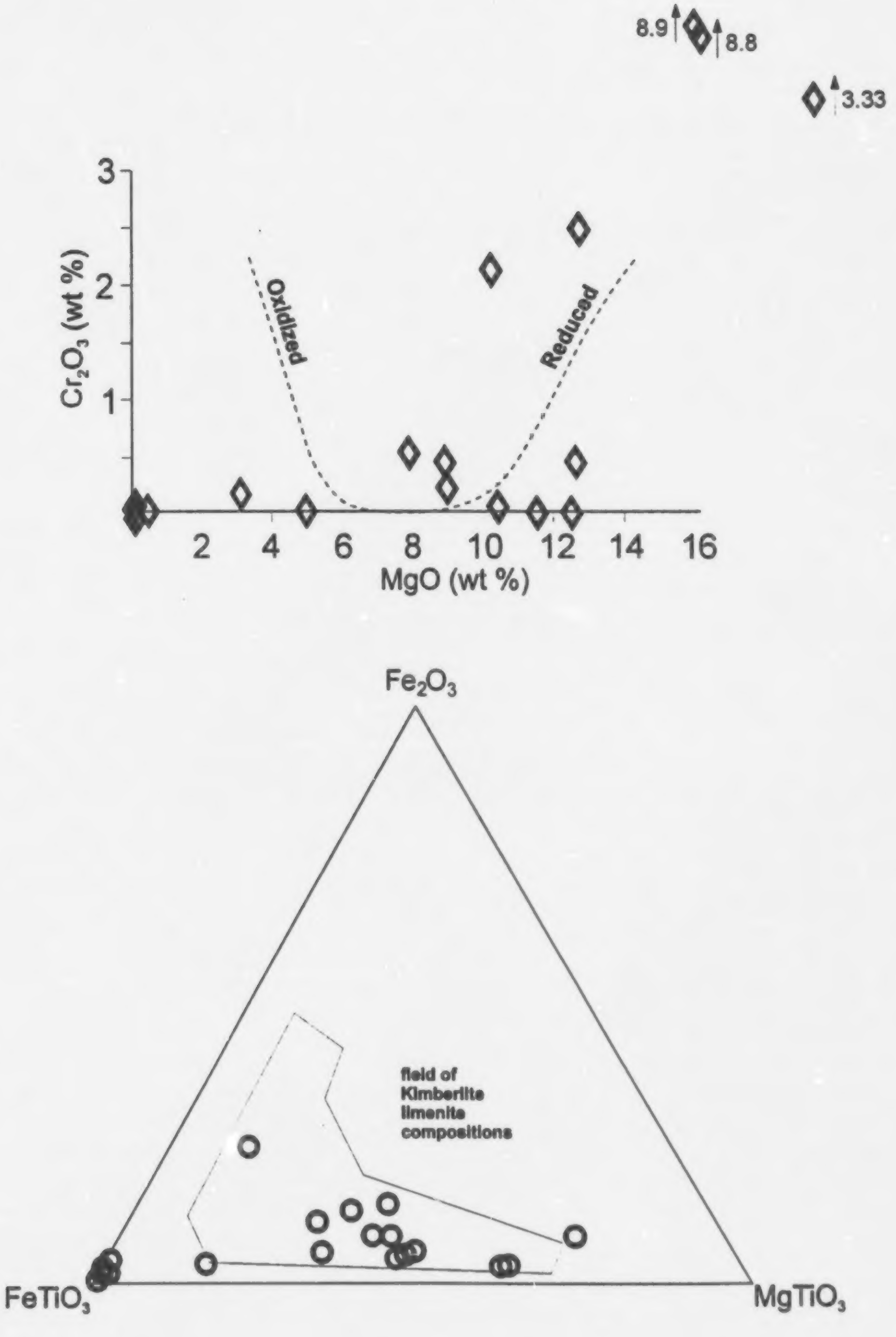


Figure 1.2. Ilmenite inclusions in diamond; compositions plotted on standard ilmenite indicator mineral geochemical graphs.

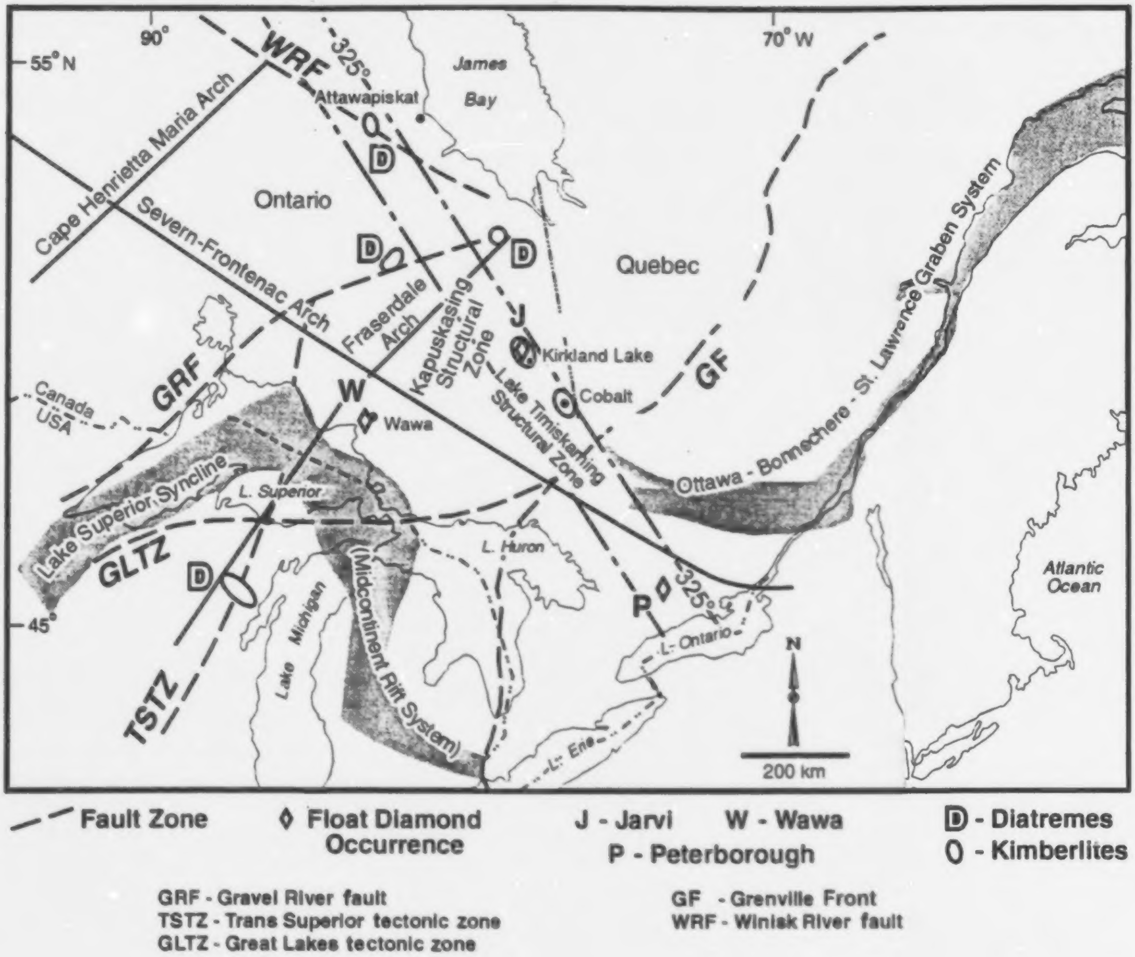

90°
55° N
70° W
45°
WRF
325°
Attawapiskat
James Bay
Cape Henrietta Maria Arch
Ontario
Severn-Frontenac Arch
Fraserdale Arch
Kapuskasing Structural Zone
Quebec
J
Kirkland Lake
Cobalt
Lake Timiskaming Structural Zone
GF
Ottawa - Bonnechere - St. Lawrence Graben System
Canada
USA
GRF
W
Wawa
Lake Superior Syncline
L. Superior
GLTZ
D
L. Huron
(Midcontinent Rift System)
Lake Michigan
TSTZ
P
325°
L. Ontario
L. Erie
N
200 km
Atlantic Ocean
Fault Zone
Float Diamond Occurrence
J - Jarvi
W - Wawa
P - Peterborough
D - Diatremes
O - Kimberlites
GRF - Gravel River fault
TSTZ - Trans Superior tectonic zone
GLTZ - Great Lakes tectonic zone
GF - Grenville Front
WRF - Winisk River fault

Figure 1.3. Regional structural patterns and kimberlite intrusions (*modified from* Ontario Geological Survey 1991d; Morris and Kaszycki 1997).

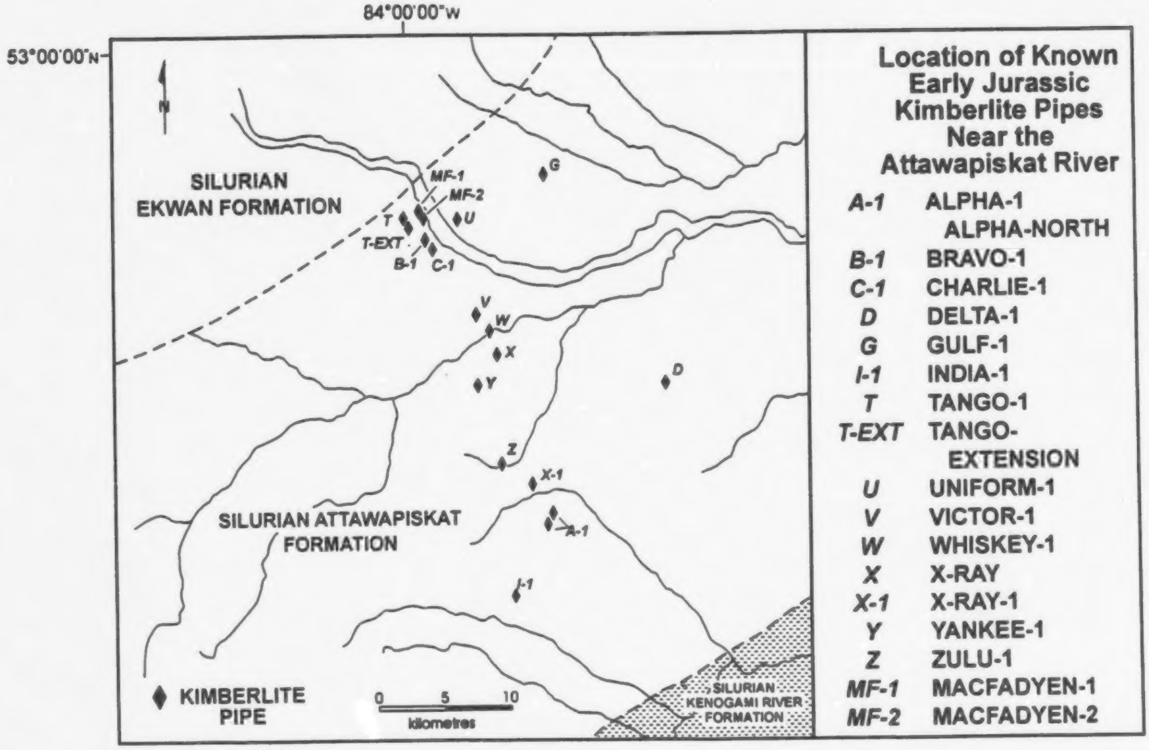

84°00'00"W
53°00'00"N
N
SILURIAN EKWAN FORMATION
SILURIAN ATTAWAPISKAT FORMATION
SILURIAN KENOGAMI RIVER FORMATION
MF-1
MF-2
T
T-EXT
B-1
C-1
U
G
V
W
X
Y
D
Z
X-1
A-1
I-1
◆ KIMBERLITE PIPE
0 5 10
kilometres
Location of Known Early Jurassic Kimberlite Pipes Near the Attawapiskat River
A-1 ALPHA-1
ALPHA-NORTH
B-1 BRAVO-1
C-1 CHARLIE-1
D DELTA-1
G GULF-1
I-1 INDIA-1
T TANGO-1
T-EXT TANGO-EXTENSION
U UNIFORM-1
V VICTOR-1
W WHISKEY-1
X X-RAY
X-1 X-RAY-1
Y YANKEE-1
Z ZULU-1
MF-1 MACFADYEN-1
MF-2 MACFADYEN-2

Figure 1.4. Sketch map showing distribution of known Early Jurassic kimberlite pipes near the Attawapiskat River (*modified from* Sage 1997).

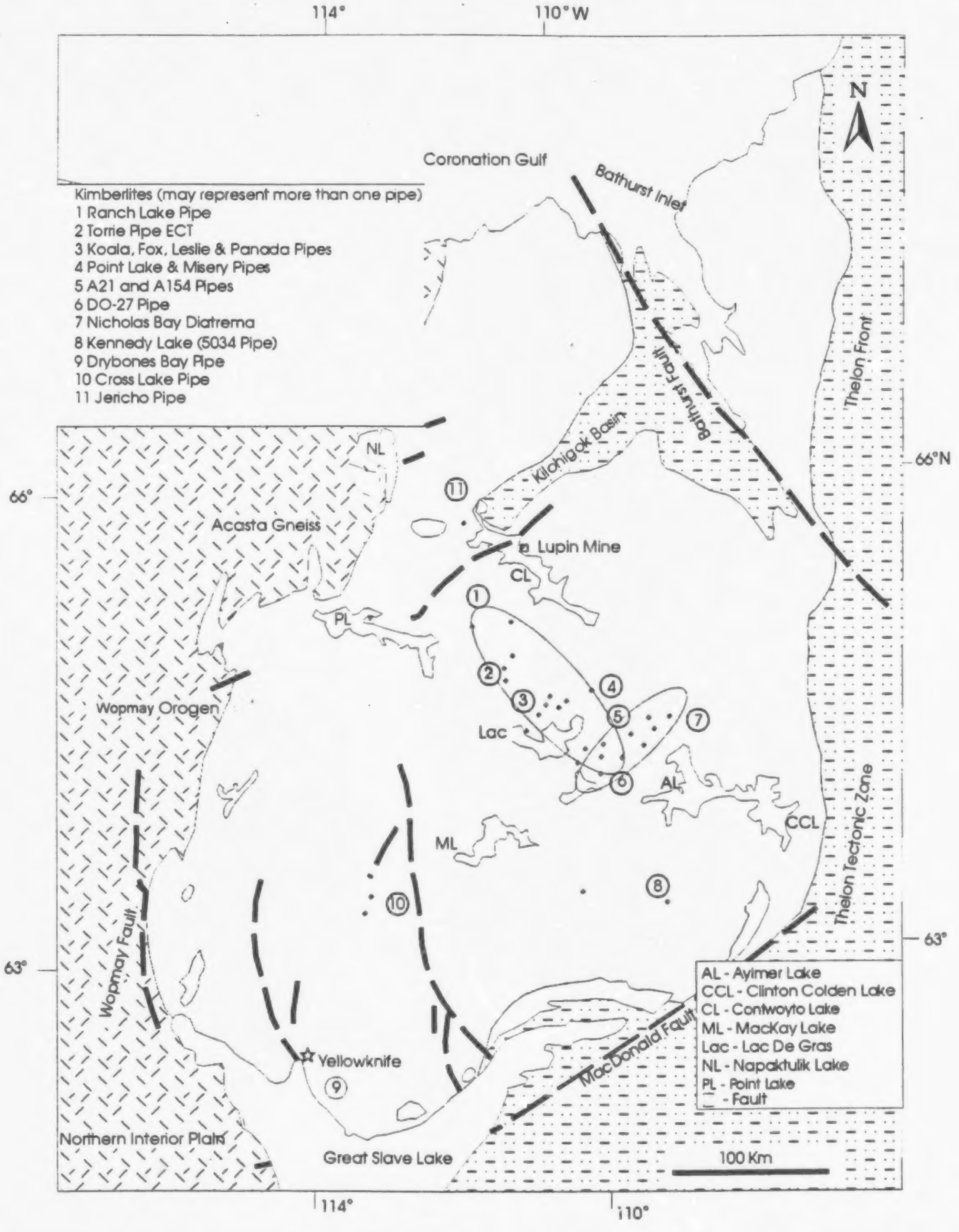

114°
110° W
N
Coronation Gulf
Bathurst Inlet
Kimberlites (may represent more than one pipe)
1 Ranch Lake Pipe
2 Torrie Pipe ECT
3 Koala, Fox, Leslie & Panada Pipes
4 Point Lake & Misery Pipes
5 A21 and A154 Pipes
6 DO-27 Pipe
7 Nicholas Bay Diatrema
8 Kennedy Lake (5034 Pipe)
9 Drybones Bay Pipe
10 Cross Lake Pipe
11 Jericho Pipe
Bathurst Fault
Thelon Front
Kilohigok Basin
66°N
66°
NL
11
Acasta Gneiss
Lupin Mine
CL
1
PL
2
4
3
5
7
Wopmay Orogen
Lac
6
AL
CCL
Thelon Tectonic Zone
ML
8
10
63°
63°
Wopmay Fault
AL - Aylmer Lake
CCL - Clinton Colden Lake
CL - Contwoyto Lake
ML - MacKay Lake
Lac - Lac De Gras
NL - Napaktulik Lake
PL - Point Lake
- Fault
MacDonald Fault
Yellowknife
9
Northern Interior Plain
Great Slave Lake
100 Km
114°
110°

Figure 1.5. Distribution of kimberlites in the Slave Province (*modified from* Pell 1997).

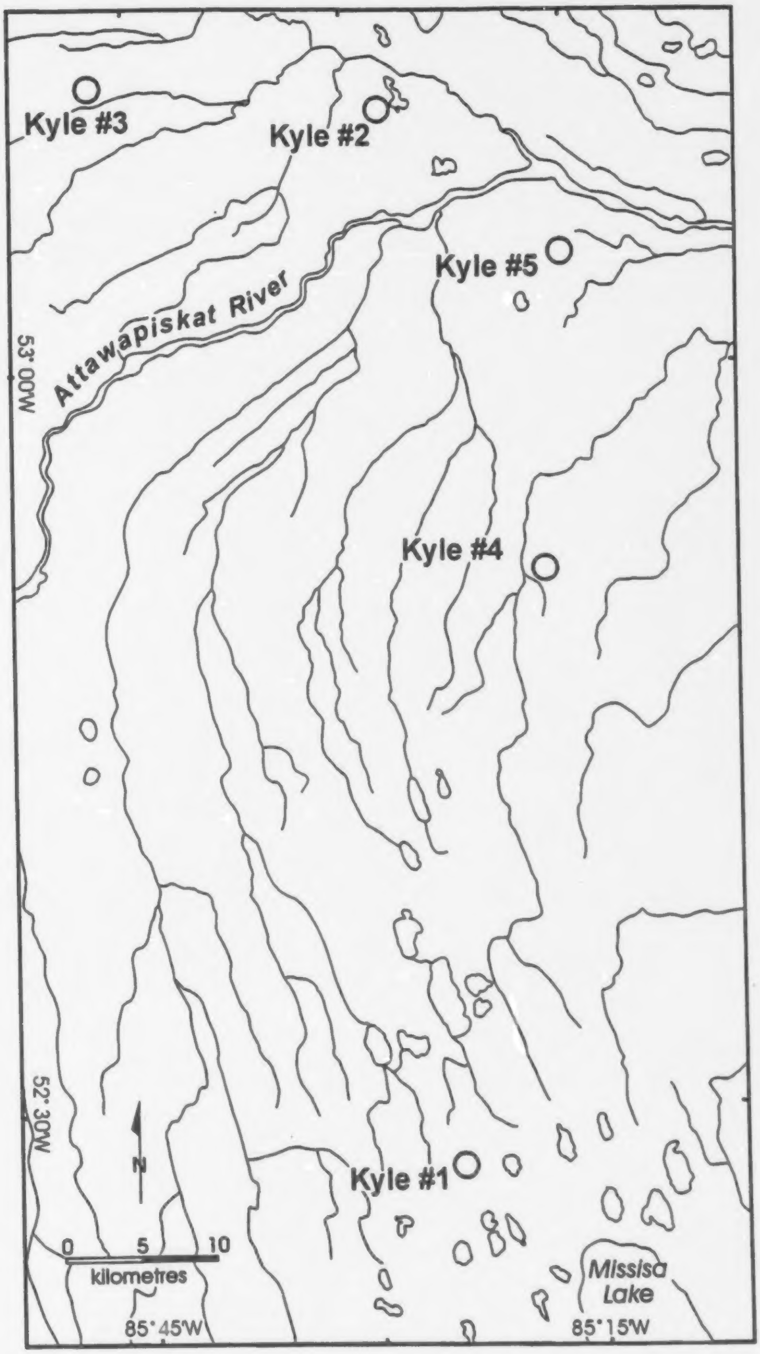

Kyle #3
Kyle #2
Kyle #5
Kyle #4
Kyle #1
Attawapiskat River
53°00'W
52°30'W
N
0
5
10
kilometres
85°45'W
85°15'W
Missisa
Lake

Figure 1.6. Proterozoic kimberlites of the Sachigo Subprovince, Superior Province (*modified from* Sage 1997).

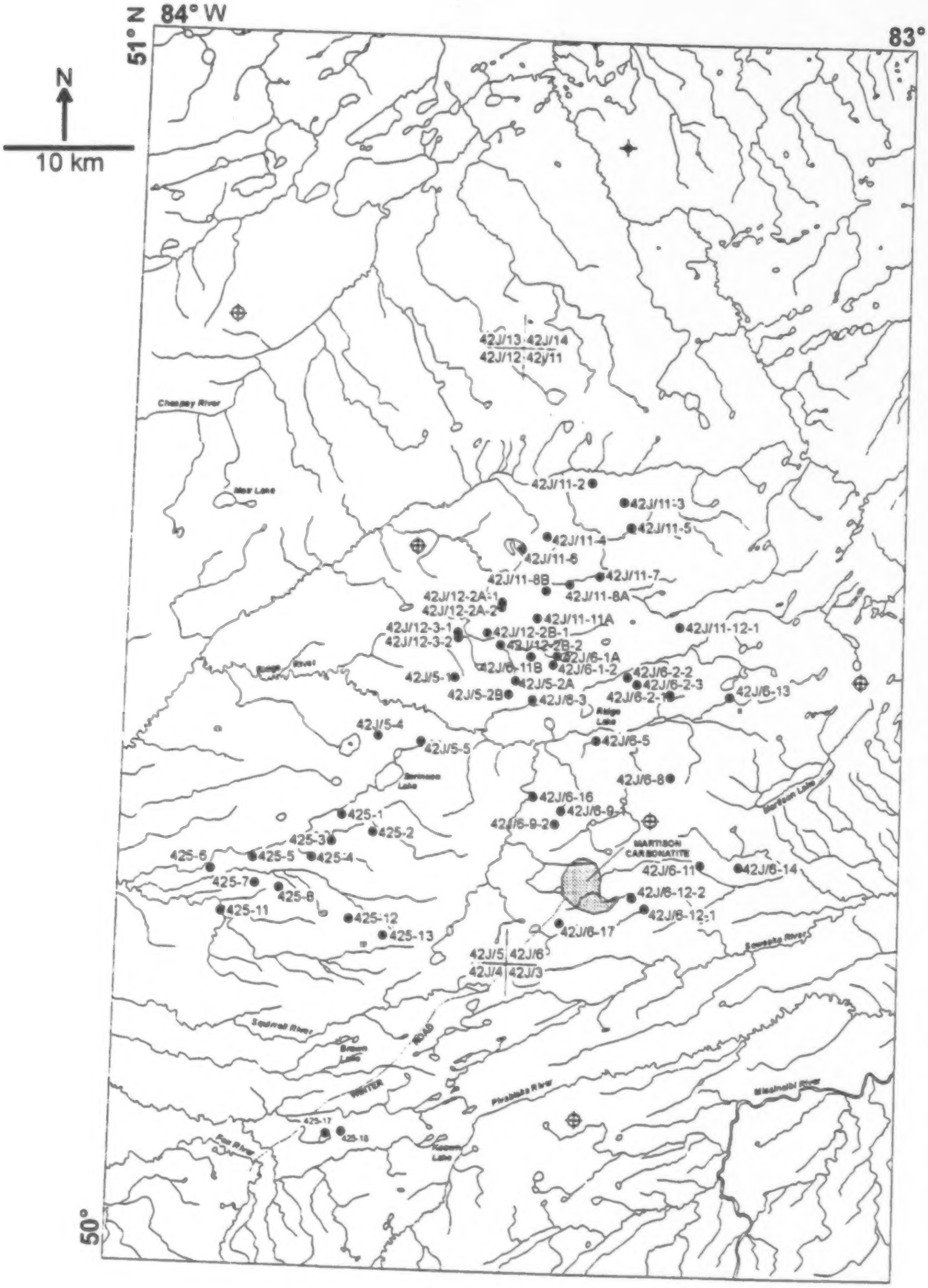

N
10 km
51° N
84° W
83°
50°
42J/13 42J/14
42J/12 42J/11
Cheepay River
42J/11-2
42J/11-3
42J/11-5
42J/11-4
42J/11-6
42J/11-8B
42J/11-7
42J/11-8A
42J/12-2A-1
42J/12-2A-2
42J/11-11A
42J/11-12-1
42J/12-3-1
42J/12-3-2
42J/12-2B-1
42J/12-2B-2
42J/6-1A
42J/6-11B
42J/6-1-2
42J/5-1
42J/5-2A
42J/5-2B
42J/6-3
42J/6-2-2
42J/6-2-3
42J/6-2-1
42J/6-13
Ridge Lake
42J/5-4
42J/5-5
42J/6-5
42J/6-8
42J/6-16
42J/6-9-1
42J/6-9-2
425-1
425-2
425-3
425-6
425-5
425-4
425-7
425-8
425-11
425-12
425-13
MARTISON CARBONATITE
42J/6-11
42J/6-14
42J/6-12-2
42J/6-12-1
42J/6-17
Martison Lake
42J/5 42J/6
42J/4 42J/3
Squirrel River
Brown Lake
ROAD
WINTER
Pivabiska River
Missinaibi River
425-17
425-18
Fox River

Figure 2.1. Sketch map showing the location of mafic to ultramafic diatremes in the Hearst area. Data *compiled from* the records of Selco Mining Corp. Ltd. (Resident Geologist's office, Timmins, Ontario, assessment files).

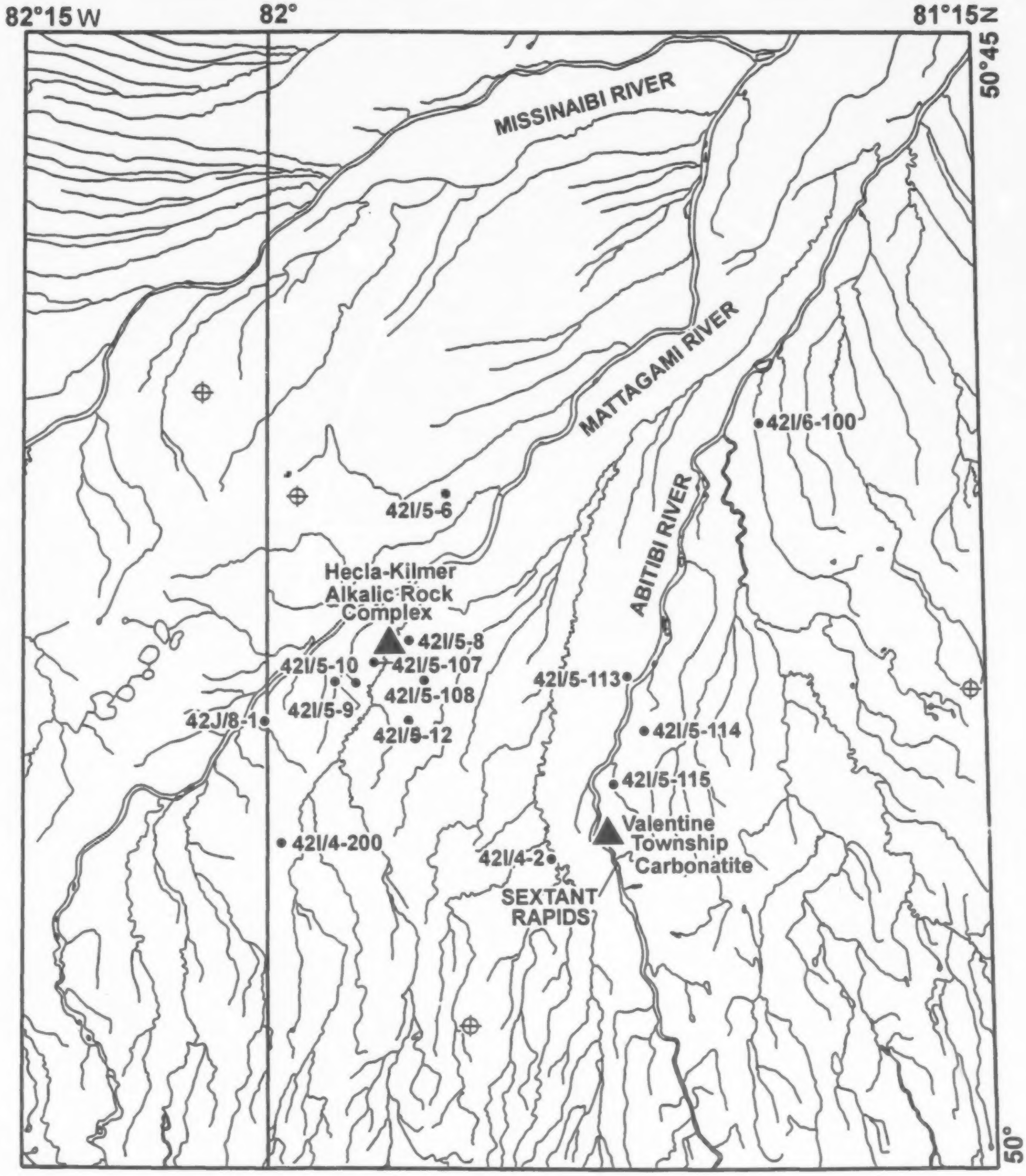

82°15 W
82°
81°15
50°45 N
50°
MISSINAIBI RIVER
MATTAGAMI RIVER
ABITIBI RIVER
42I/6-100
42I/5-6
Hecla-Kilmer Alkalic Rock Complex
42I/5-8
42I/5-10
42I/5-107
42I/5-108
42I/5-9
42J/8-1
42I/5-12
42I/5-113
42I/5-114
42I/5-115
Valentine Township Carbonatite
42I/4-200
42I/4-2
SEXTANT RAPIDS
10 km

Figure 2.2. Sketch map showing the location of mafic to ultramafic diatremes in the Sextant (Coral) Rapids area. Data *compiled from* the records of Selco Mining Corp. Ltd. (Resident Geologist's office, Timmins, assessment files).

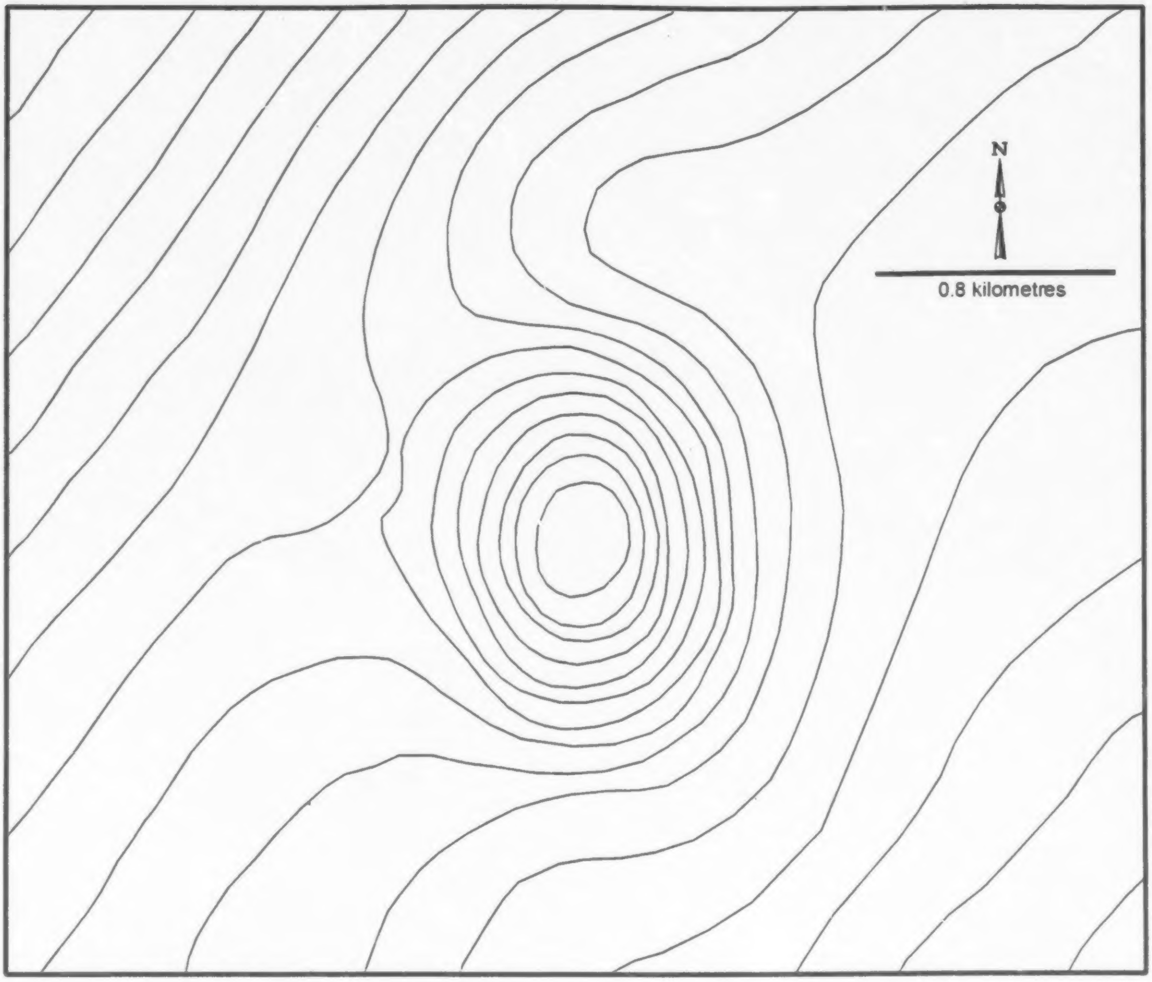
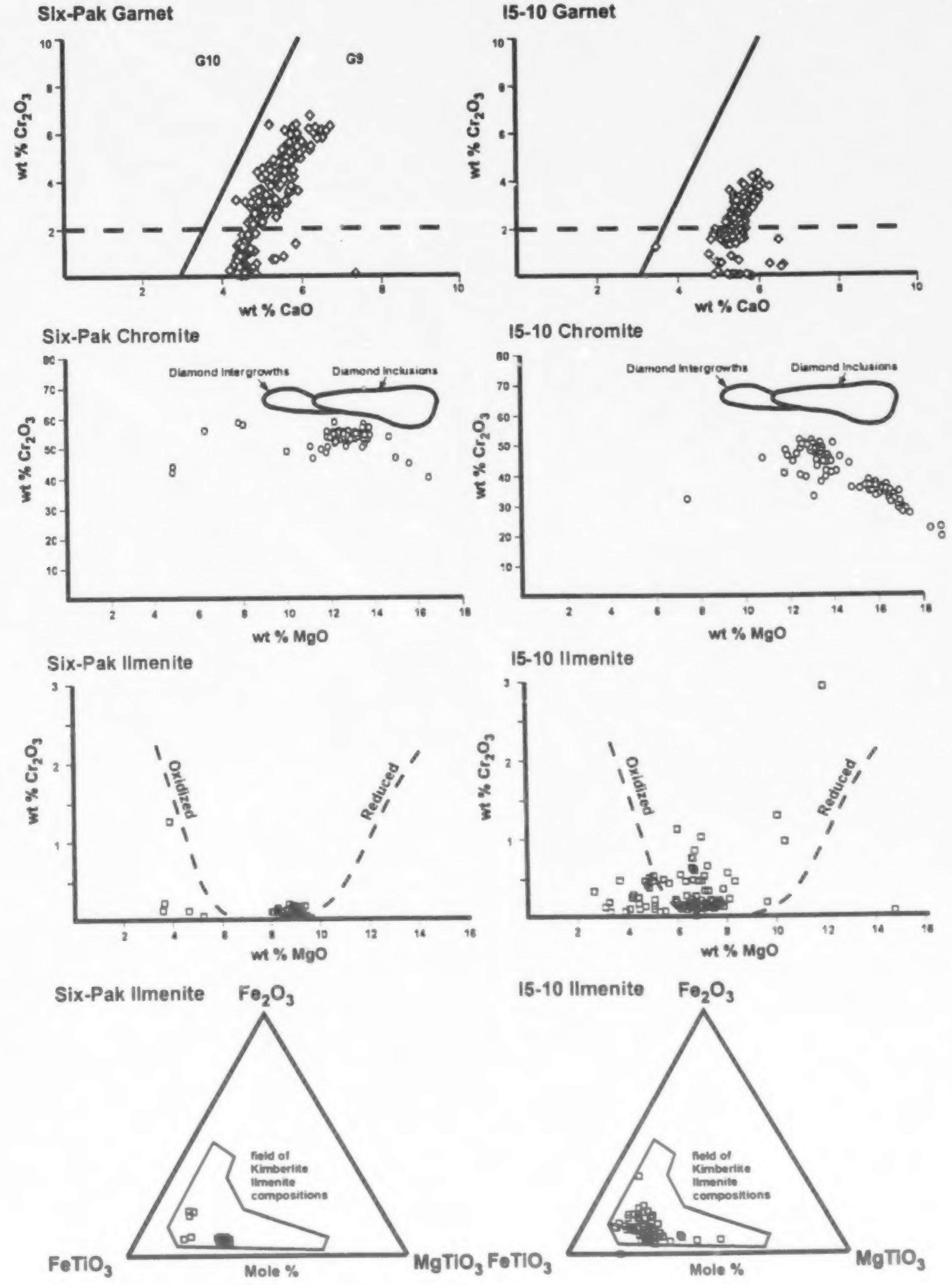


Figure 3.1. Isomagnetic map of Six-Pak mafic to ultramafic intrusive complex. Contour interval uncertain. Data provided by Ashton Mining of Canada Inc.



Six-Pak Garnet

15-10 Garnet

Six-Pak Chromite

15-10 Chromite

Six-Pak Ilmenite

15-10 Ilmenite

Six-Pak Ilmenite

15-10 Ilmenite

Figure 3.2. Mineral geochemistry of indicator mineral-bearing mafic to ultramafic intrusive rocks.

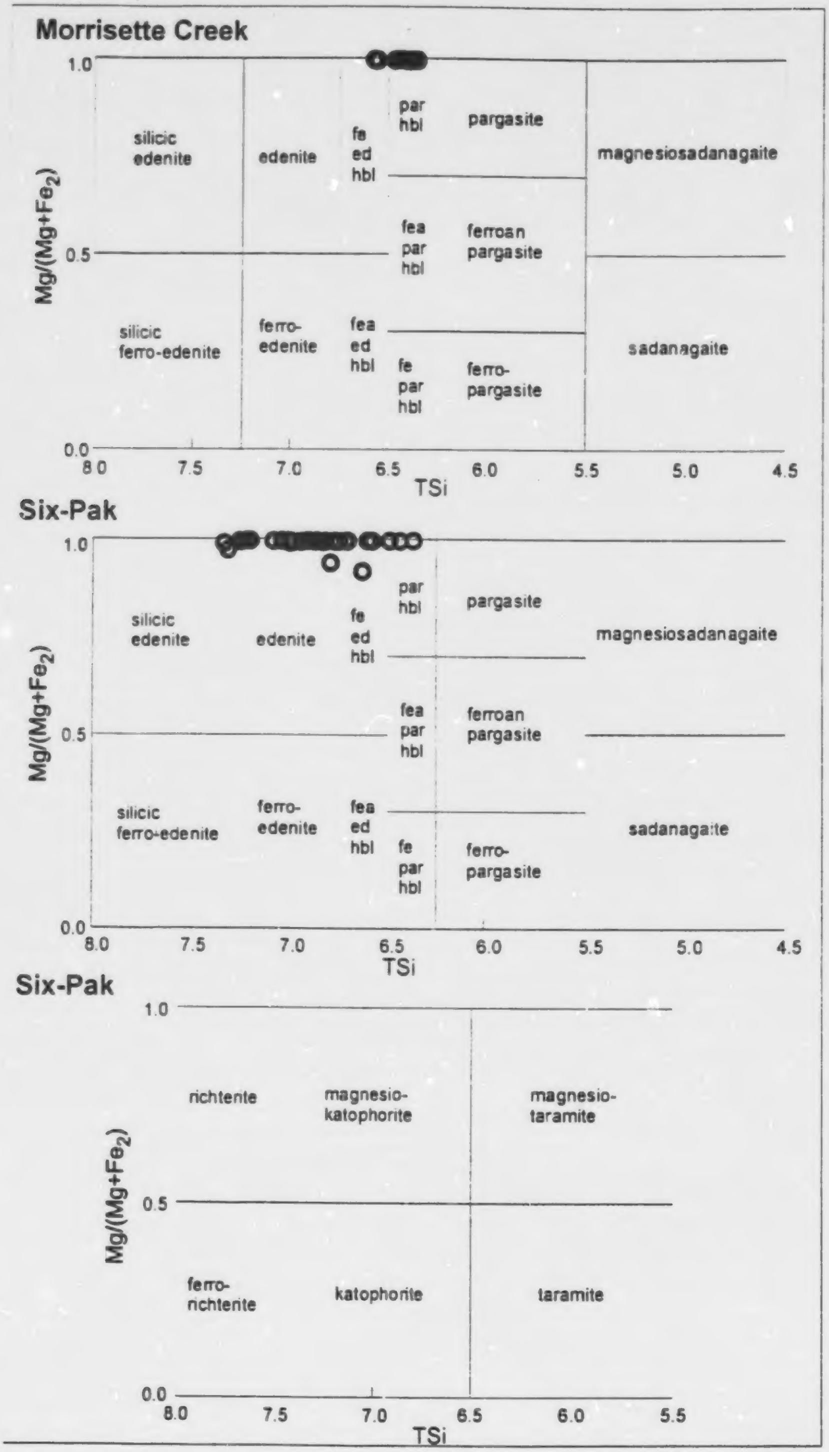


Figure 3.3. Amphibole composition comparison between Morrisette Creek kimberlite and Six-Pak diamond-bearing mafic-ultramafic intrusion.

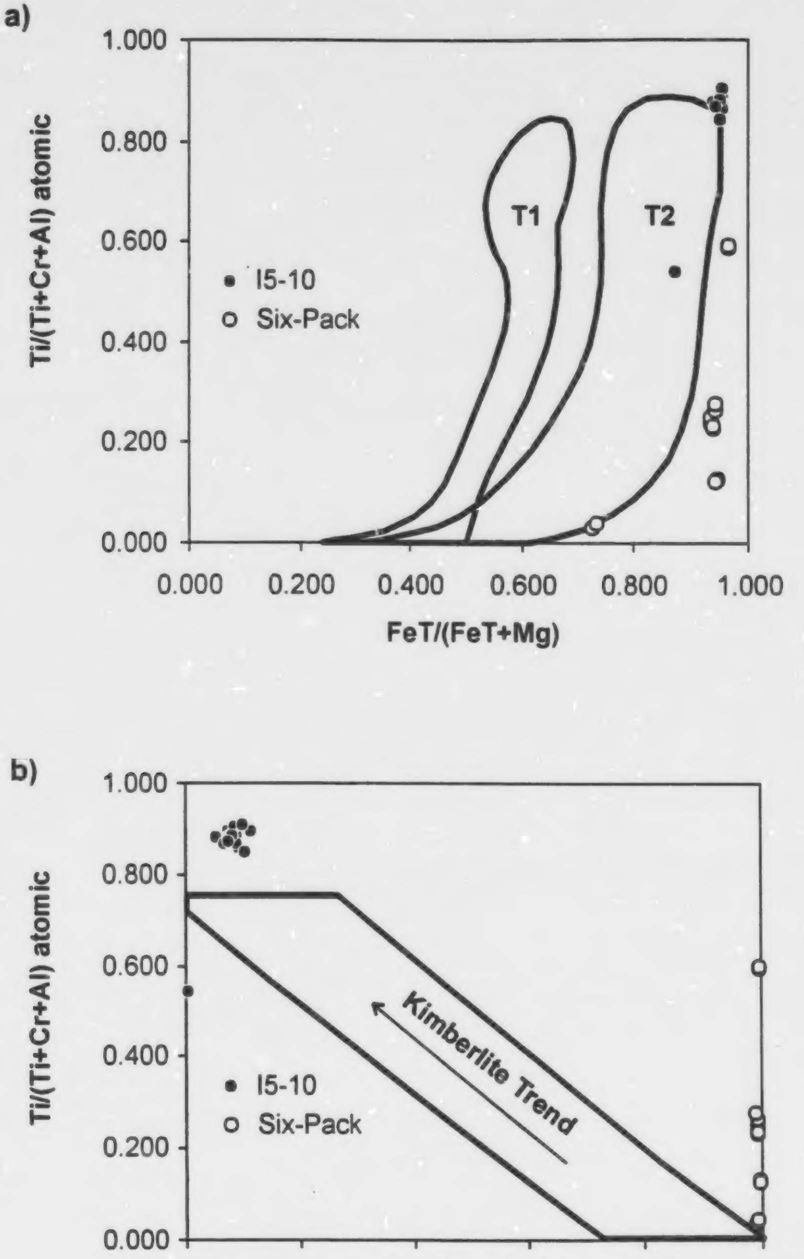


Figure 3.4. Spinel electron microprobe chemistry; Six-Pak complex and anomaly I5-10. Fields of kimberlite compositions *from* Mitchell (1995a). Figure 3.4a prepared by B. Kjarsgaard, Geological Survey of Canada and D. Crabtree, Microprobe Scientist, Geoscience Laboratories; Figure 3.4b prepared by D. Crabtree, Microprobe Scientist, Geoscience Laboratories.

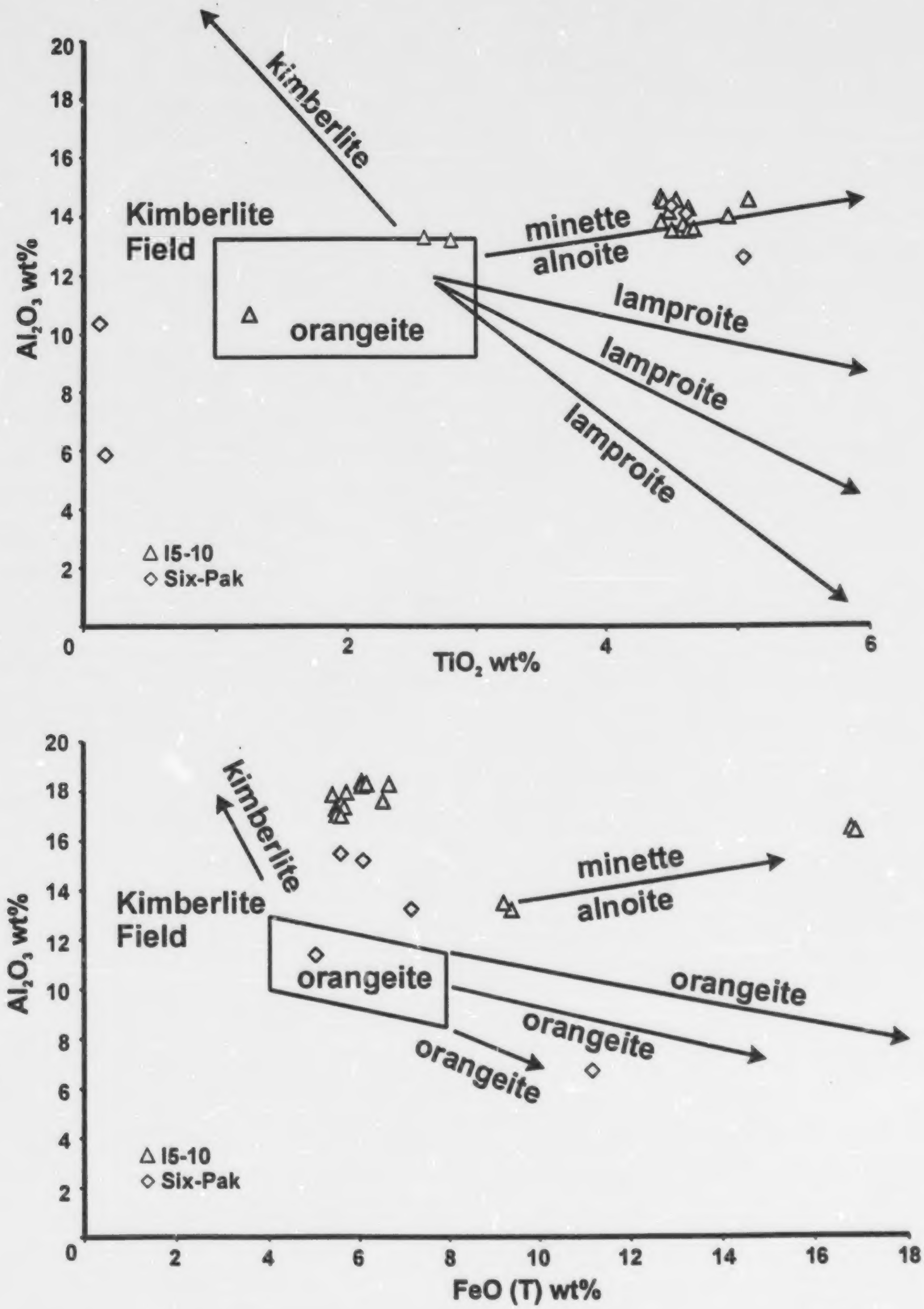


Figure 3.5. Mica electron microprobe chemistry plots for anomaly I5-10 and Six-Pak complex. Compositional fields and trends *from* Mitchell (1995a).

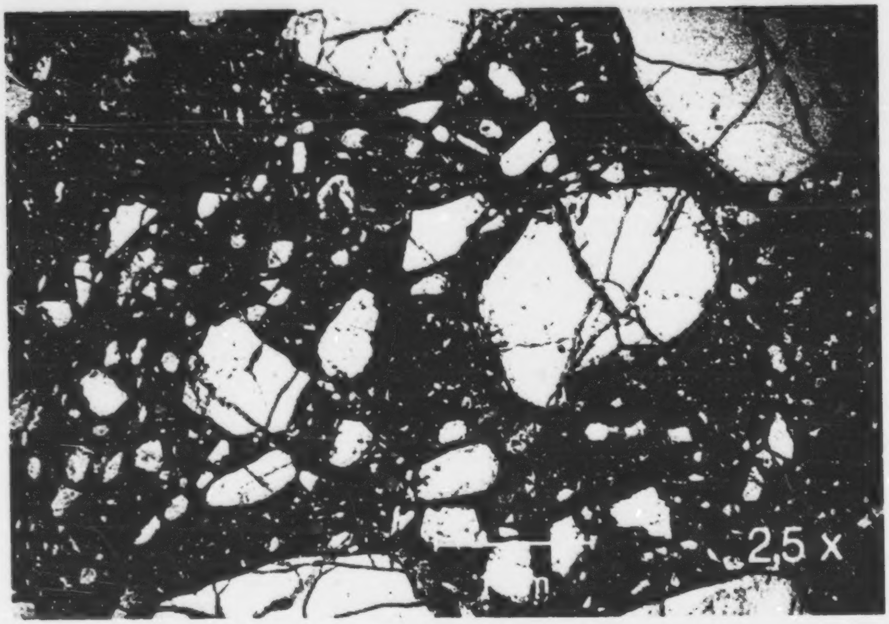


Photo 1. Photomicrograph of fresh angular to rounded grains of olivine in hypabyssal kimberlite. Alpha-1 kimberlite at 157.2 m. Sample from Monopros Ltd.

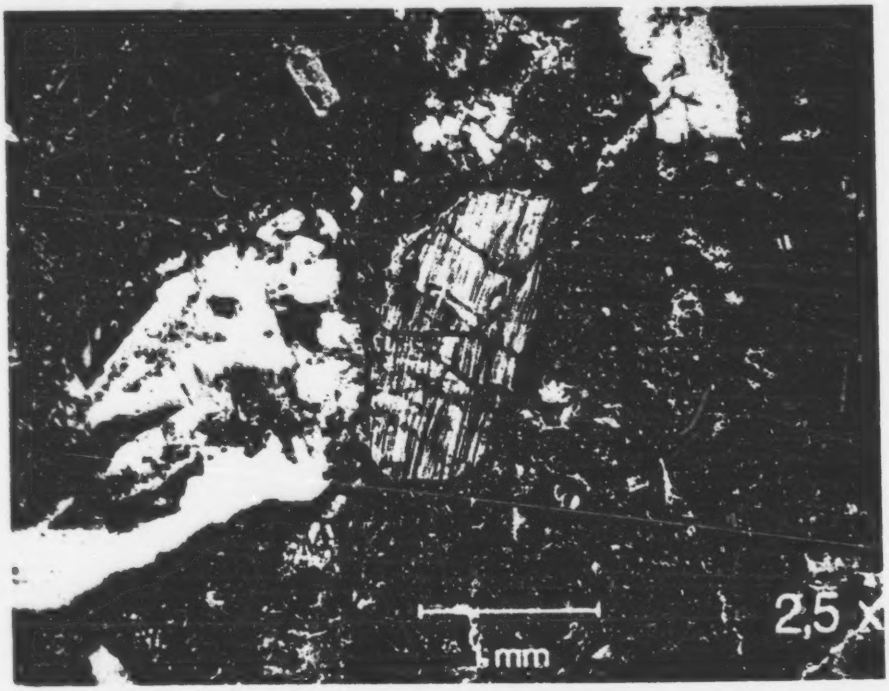


Photo 2. Photomicrograph of kink banded phlogopite mica and serpentinized olivine in very fine-grained kimberlite matrix. Charlie-1 kimberlite at 49.0 m. Sample from Monopros Ltd.

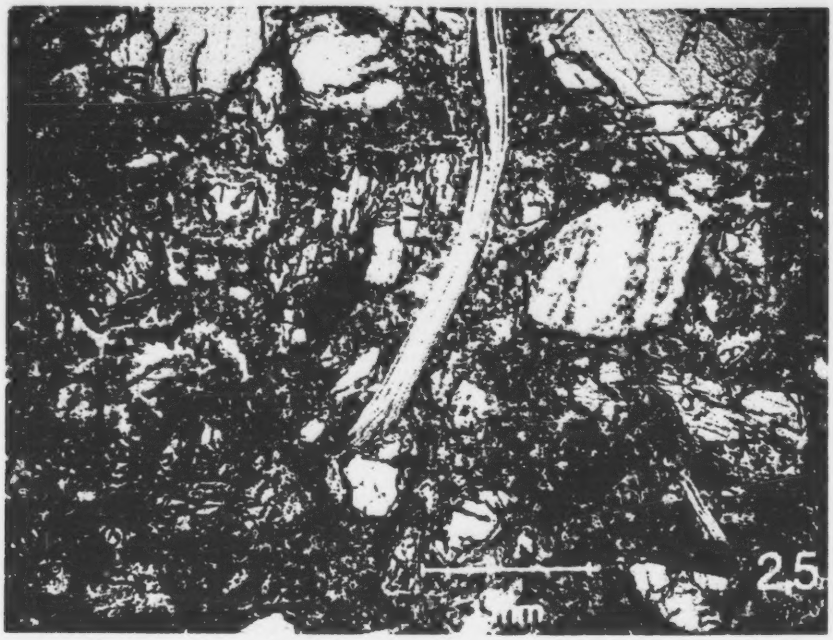


Photo 3. Photomicrograph of bent phlogopite mica and fresh olivine representing hypabyssal kimberlite. Delta-1 kimberlite at 225.5 m. Sample from Monopros Ltd.

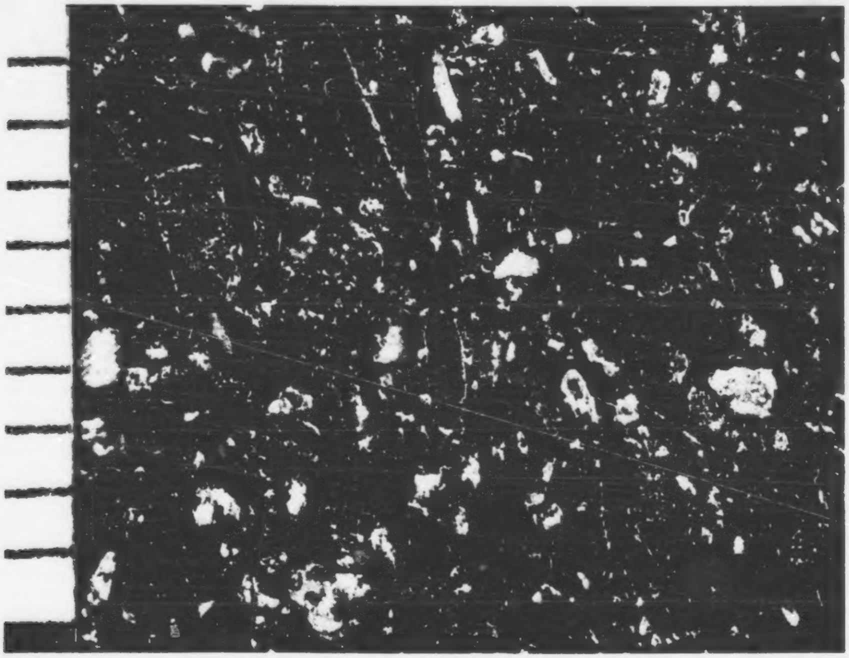


Photo 4. Tabular grains of phlogopite mica and rounded grains of serpentinized olivine. Slabbed drill core from India-1 kimberlite, depth 114.0 m. Distance between lines on scale bar is 1.0 mm. Sample from Monopros Ltd.

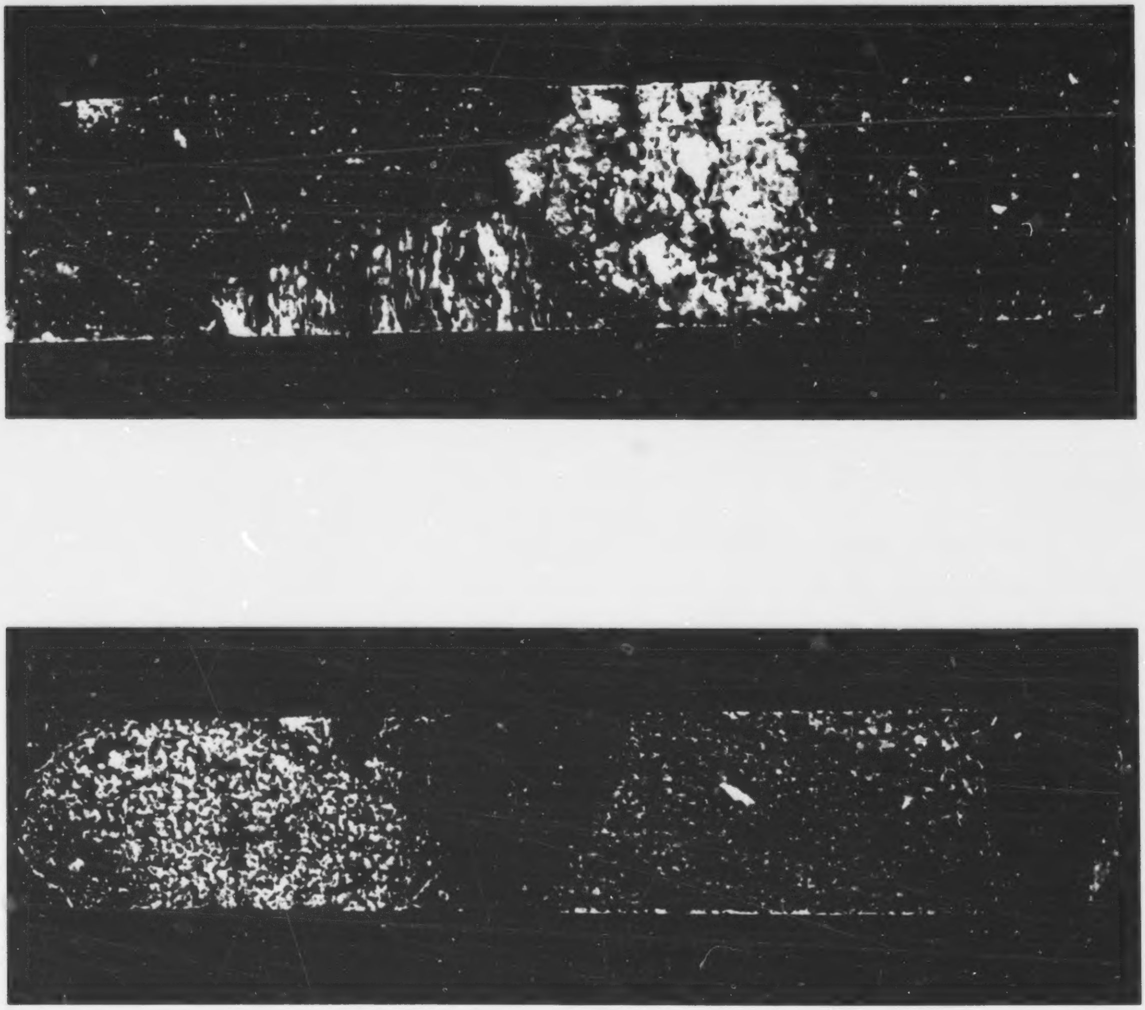


Photo 5. Polished sections of drill from Kyle Lake No. 1 showing large xenoliths of gneissic to massive granitic rock enveloped in hypbyssal kimberlite. Sample on the left (26 cm in length) is from hole A6-95-3, 265.0 m; sample on right (22 cm in length) is from hole A6-95-2, 337.0 m. Samples supplied by Ashton Mining of Canada Inc.

Photo 6. Kimberlite–granite contact in slabbed drill core, Kyle Lake No. 1 kimberlite. Drill hole A6-95-3, depth 265.0 m. Distance between lines on scale bar is 1.0 mm. Sample provided by Ashton Mining of Canada Inc. Sample from KWG Resources Inc. – Spider Resources Inc.

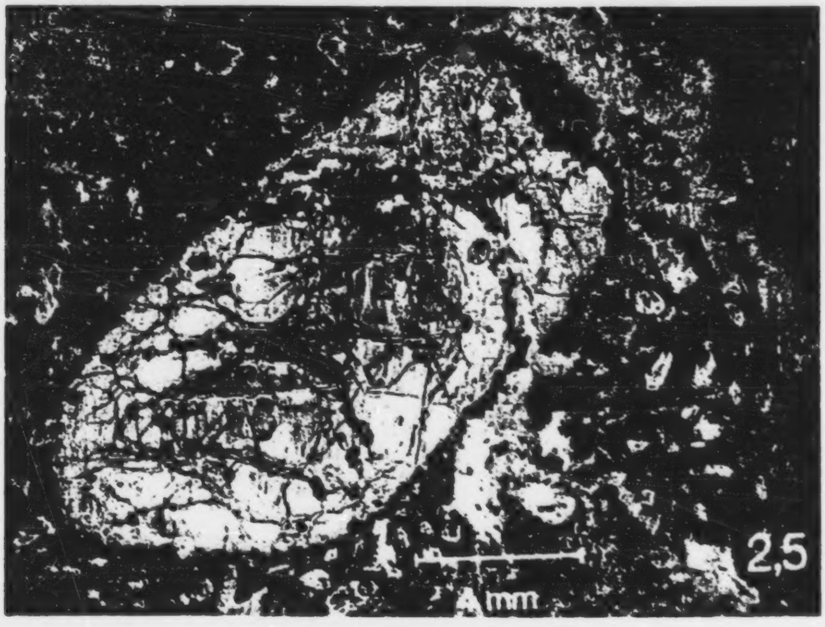


Photo 7. Photomicrograph of serpentinized olivine macrocryst with tiny garnet inclusions. Hypabyssal kimberlite of the Kyle Lake No. 1 kimberlite complex. Sample from hole DR 26, depth 409.0 m. Sample from KWG Resources Inc. – Spider Resources Inc.

Photo 8. Flat, radiating tufts of millerite from heavy mineral concentrate of Kyle Lake No. 1 kimberlite. Millerite is from the altered kimberlite. Distance between lines on scale bar is 1.0 mm. Sample from KWG Resources Inc. – Spider Resources Inc.

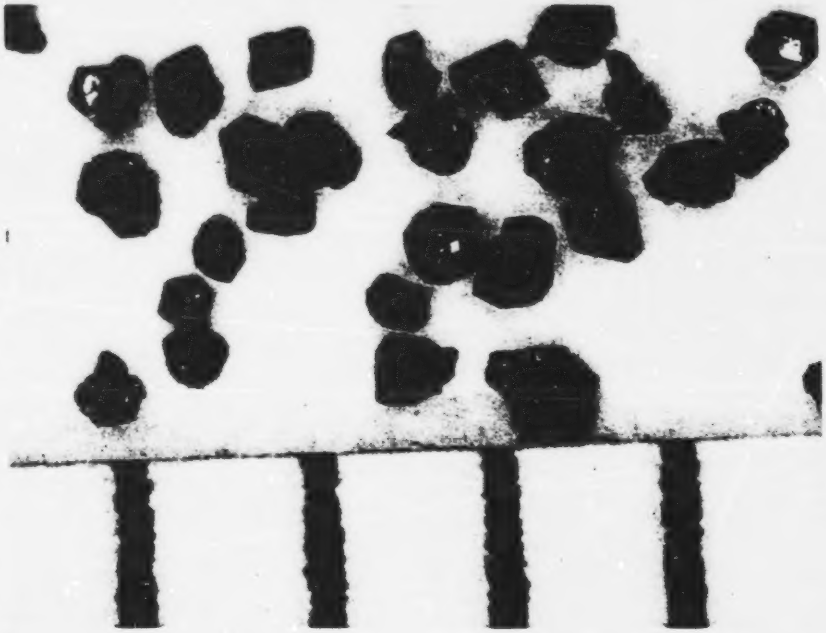


Photo 9. Euhedral dodecahedrons of andradite garnet from heavy mineral concentrate of Kyle Lake No. 1 kimberlite. Garnet is a product of alteration of the kimberlite. Distance between lines on scale bar is 1.0 mm. Sample from KWG Resources Inc. – Spider Resources Inc.

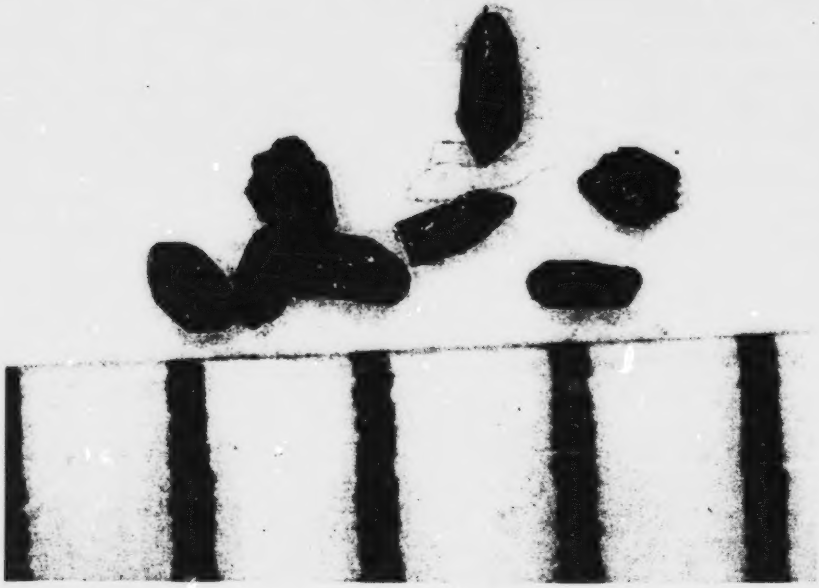


Photo 10. Doubly terminated zircon crystals from the heavy mineral concentrate of Kyle Lake No. 1 kimberlite. Zircon is derived from abundant granitic rock xenoliths. Distance between lines on scale bar is 1.0 mm. Sample from KWG Resources Inc. – Spider Resources Inc.

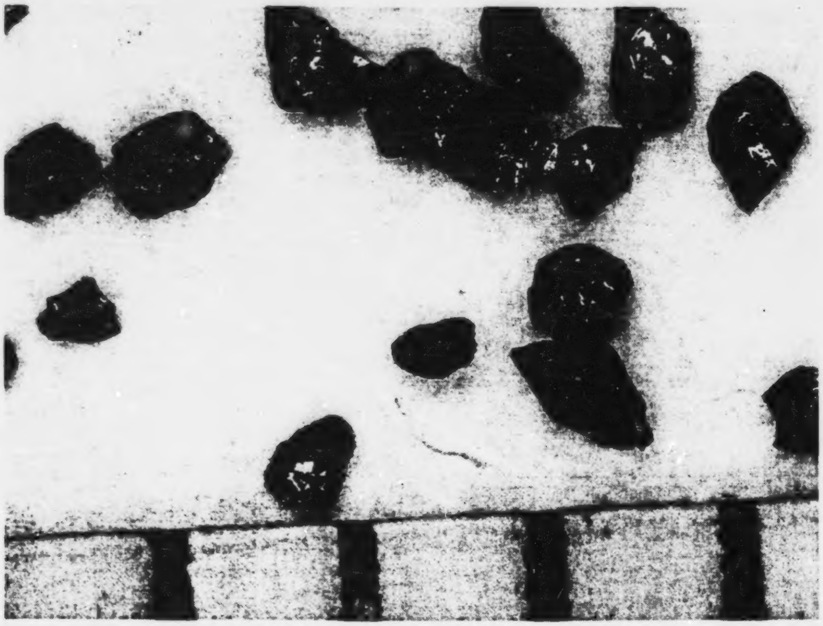


Photo 11. Fractured and broken wedge-shaped grains of sphene from the heavy mineral concentrate of Kyle Lake No. 1 kimberlite. Sphene is derived from abundant granitic rock xenoliths. Distance between lines on scale bar is 1.0 mm. Sample from KWG Resources Inc. – Spider Resources Inc.

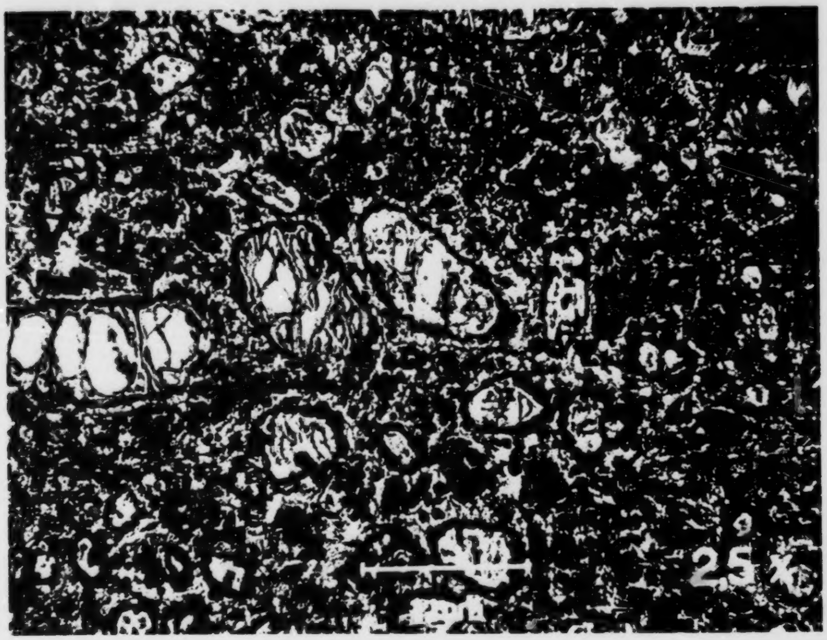


Photo 12. Photomicrograph of hypabyssal kimberlite of Kyle Lake No. 2 kimberlite. Drill hole DR 95-34, depth 314.8 m. Olivine extensively serpentinized. Sample from KWG Resources Inc. – Spider Resources Inc.

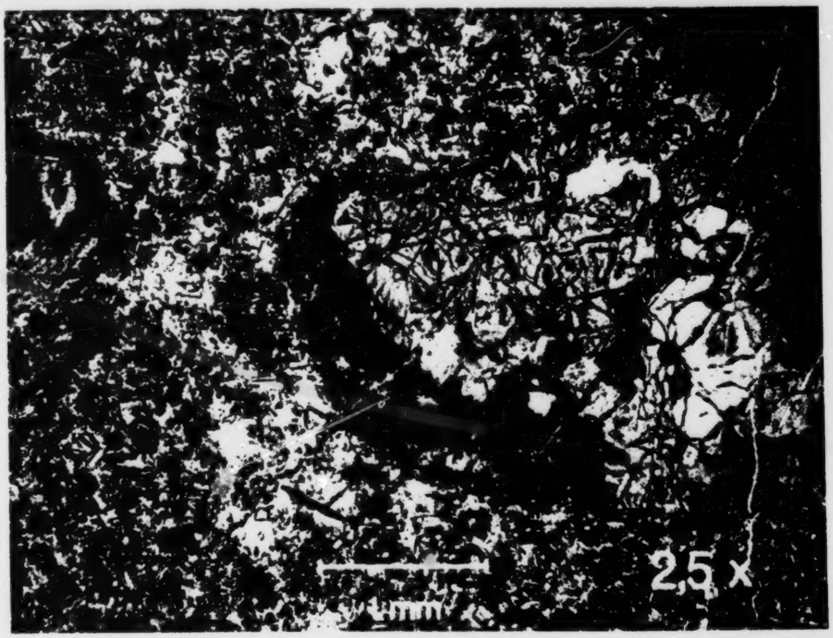


Photo 13. Photomicrograph of serpentinized olivine macrocryst in opaque mineral-rich fine-grained matrix of Kyle Lake No. 3 kimberlite. Drill hole E395-1B, depth 130.0 m. Sample from KWG Resources Inc. – Spider Resources Inc.

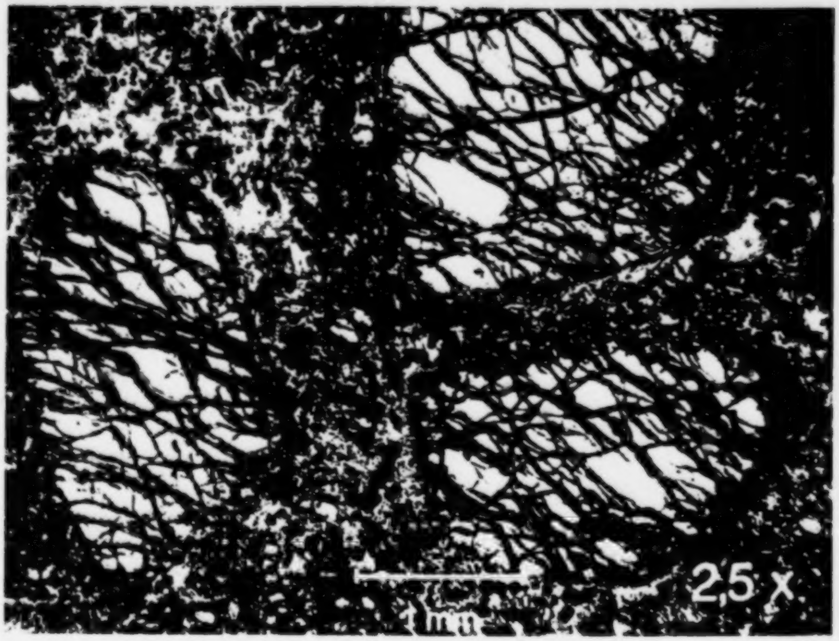


Photo 14. Photomicrograph of fresh olivine phenocrysts in hypabyssal kimberlite of Kyle Lake No. 4, hole DR 96-61, depth 269.0 m. Sample from KWG Resources Inc. – Spider Resources Inc.

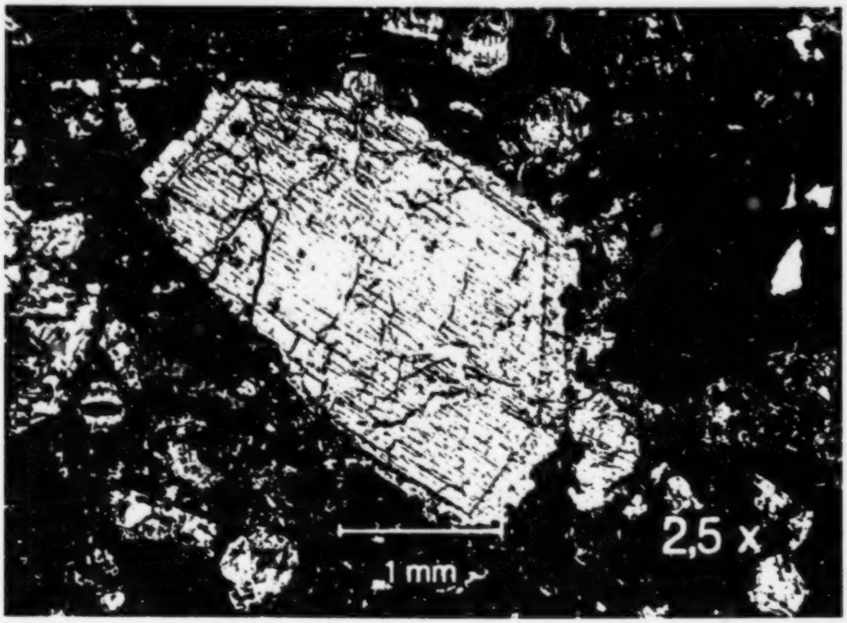


Photo 15. Photomicrograph of subhedral to euhedral zoned clinopyroxene phenocrysts in fine-grained mica-rich matrix. Kyle Lake No. 5, hole DR 96-62, uncrossed nicols. Sample from KWG Resources Inc. – Spider Resources Inc.

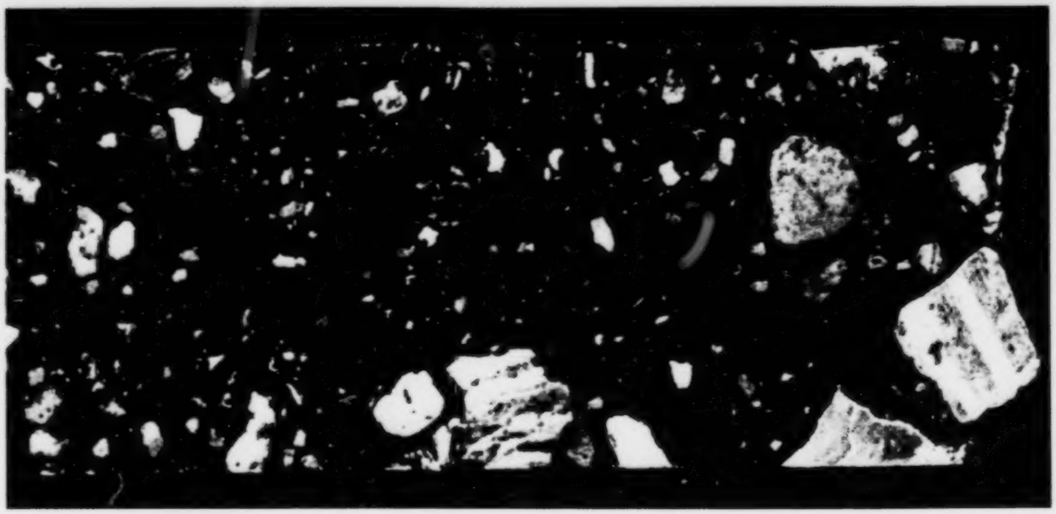


Photo 16. Polished drill core displaying texture of the Tango-Extension kimberlite pipe, depth 117.0 m. Sample from Monopros Ltd. Core length 11.0 cm.

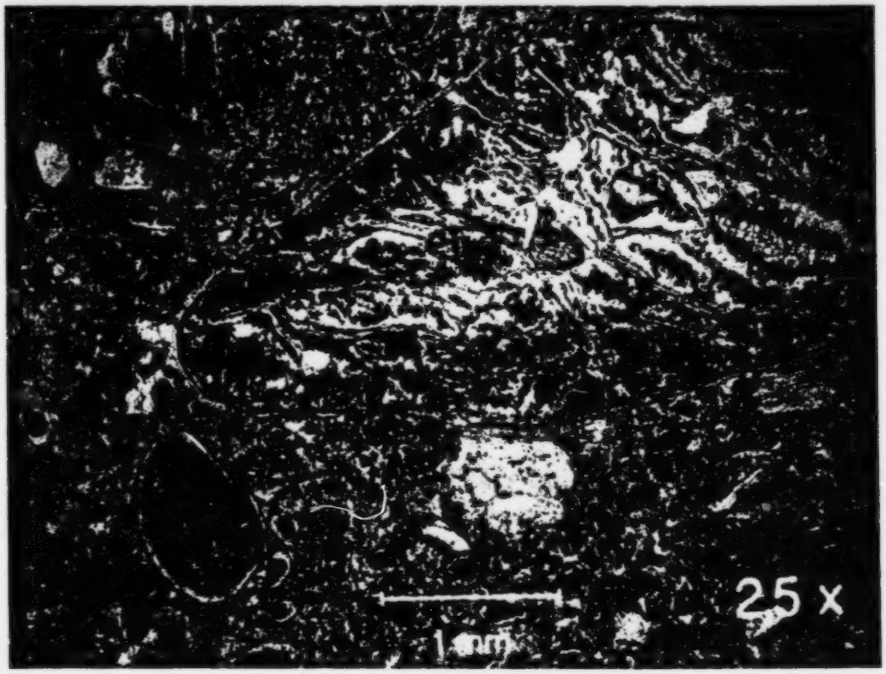


Photo 17. Photomicrograph of serpentinized olivine macrocrysts in hypabyssal kimberlite. Sample from Uniform-1 kimberlite, depth 66.1 m. Sample from Monopros Ltd.

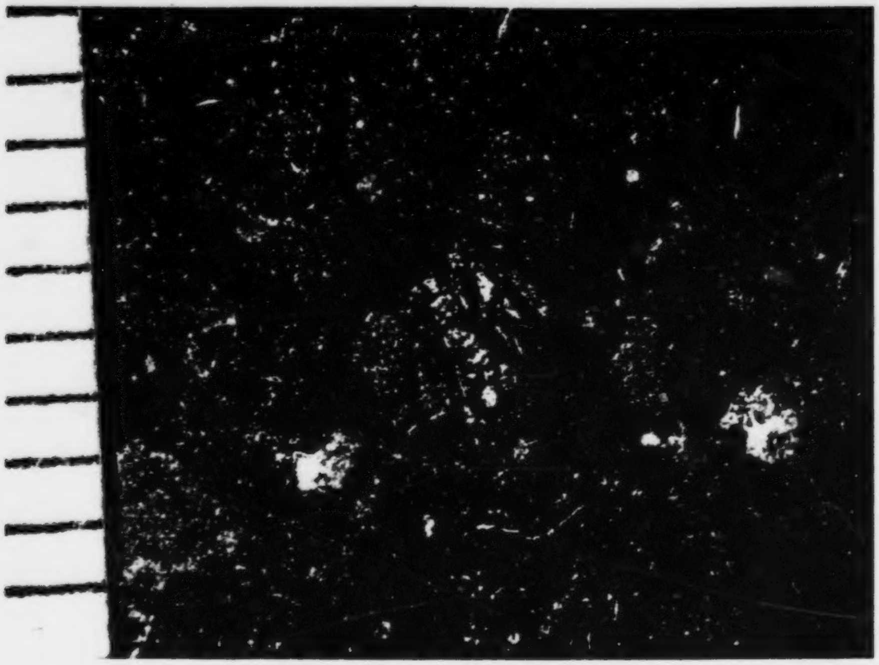


Photo 18. Slabbed surface of drill core showing serpentinized olivine megacryst. Sample from Uniform-1 kimberlite, depth 66.1 m. Distance between lines on the scale bar is 1.0 mm. Sample from Monopros Ltd.

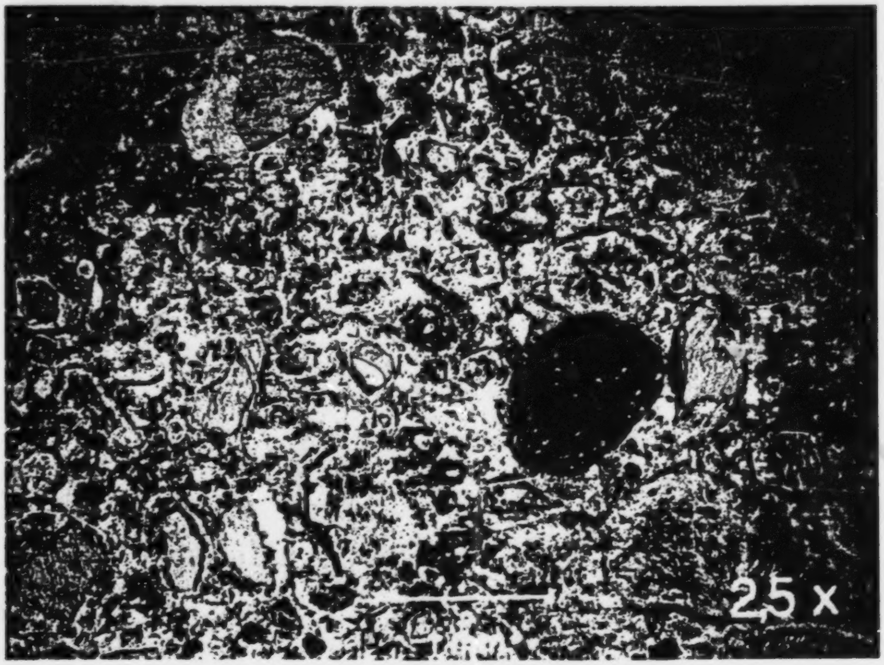


Photo 19. Photomicrograph of texture of hypabyssal kimberlite of Victor-1 pipe, depth 75.6 m. Small autolith in lower right corner. Sample from Monopros Ltd.

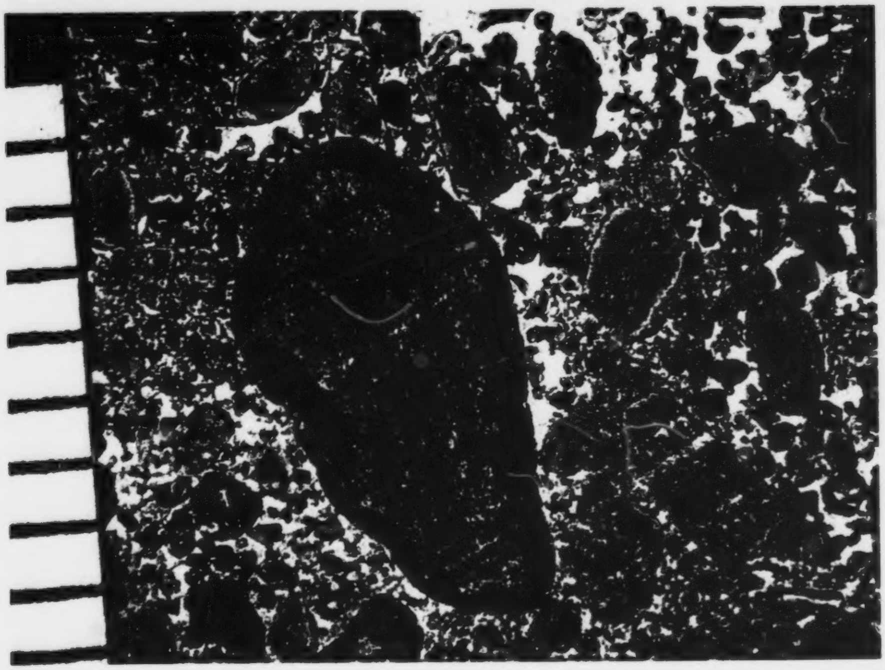


Photo 20. Serpentinized olivine megacryst in hypabyssal kimberlite of the Victor-1 pipe, depth 75.6 m. Specimen is slabbed drill core. The distance between lines on the scale bar is 1.0 mm. Sample from Monopros Ltd.

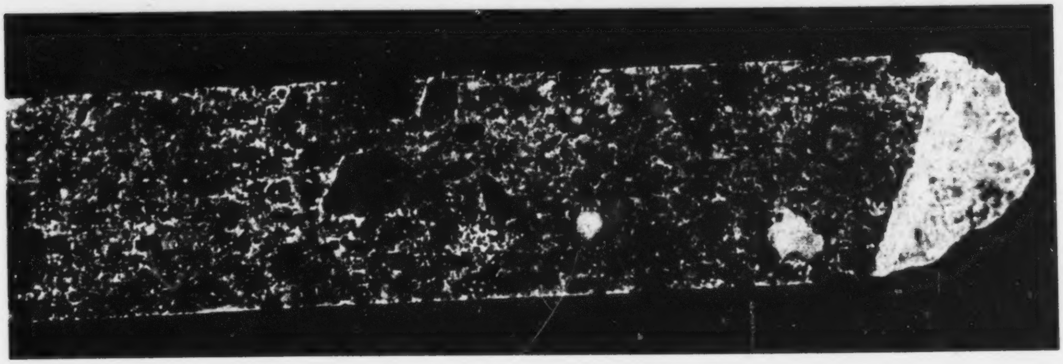


Photo 21. Polished drill core displaying texture of Victor-1 kimberlite, depth 75.6 m. Sample from Monopros Ltd. Core length 17.0 cm.

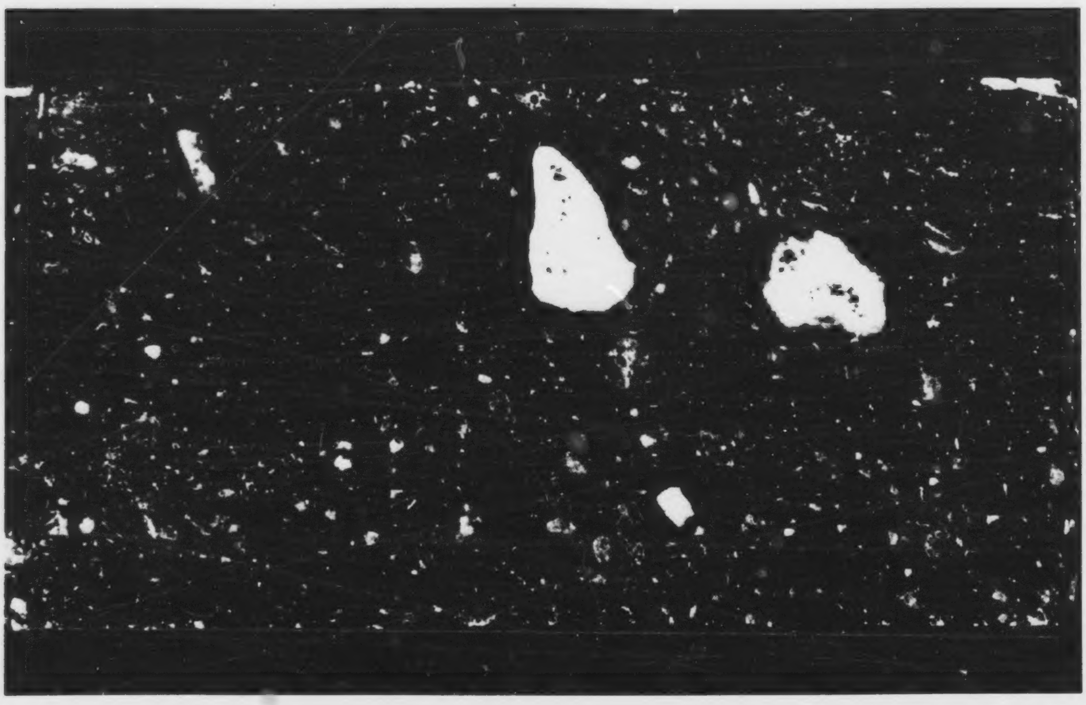


Photo 22. Polished drill core displaying texture of the X-Ray-1 kimberlite pipe, depth 67.0 m. Sample from Monopros Ltd. Core length 9.5 cm.

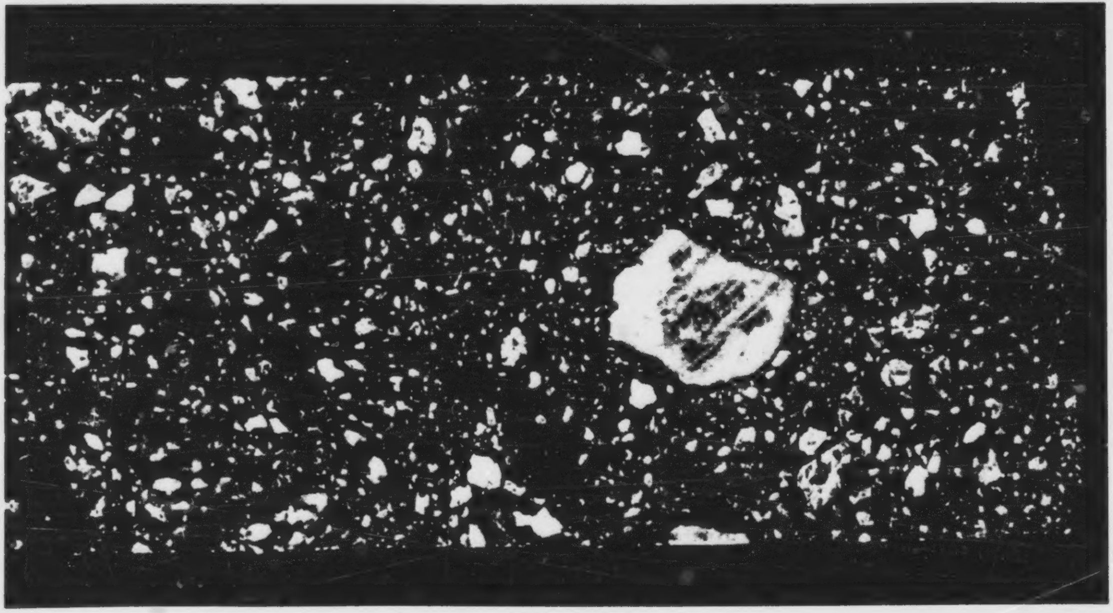


Photo 23. Polished drill core displaying texture of the Zulu-1 kimberlite pipe, depth 74.0 m. Sample from Monopros Ltd. Core length 11.0 cm.

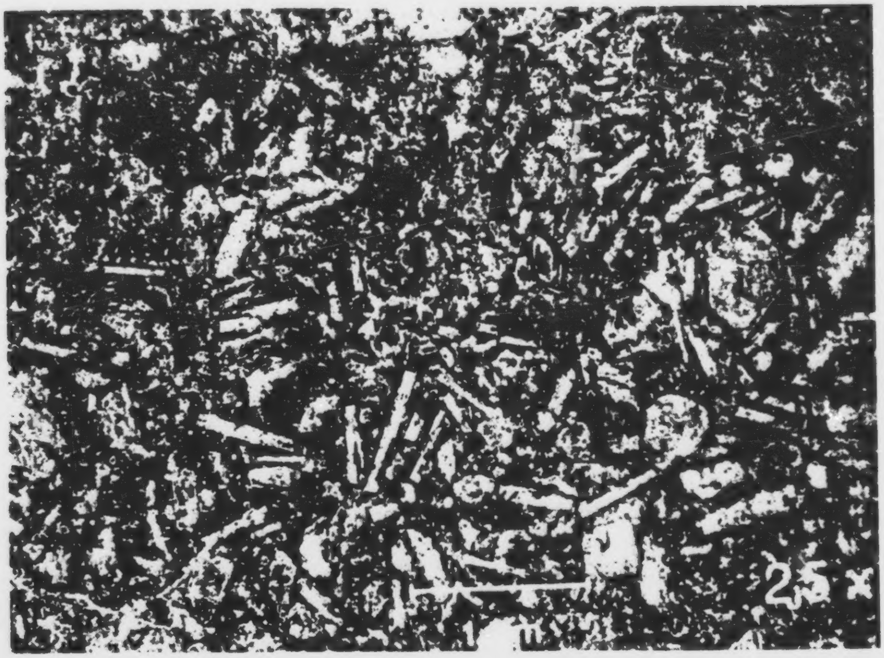


Photo 24. Photomicrograph of anomaly 425-6, sample B. Mica laths and pyroxene phenocrysts in autolith. Crossed nicols.

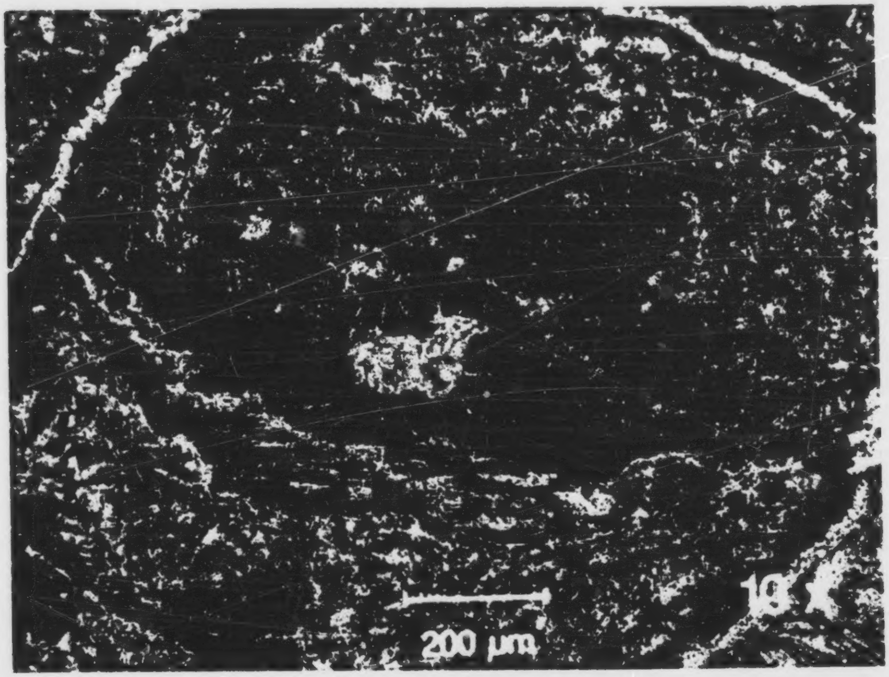


Photo 25. Photomicrograph of anomaly 425-7. Cored pelletal structure in thin section from a drill core sample. Crossed nicols.

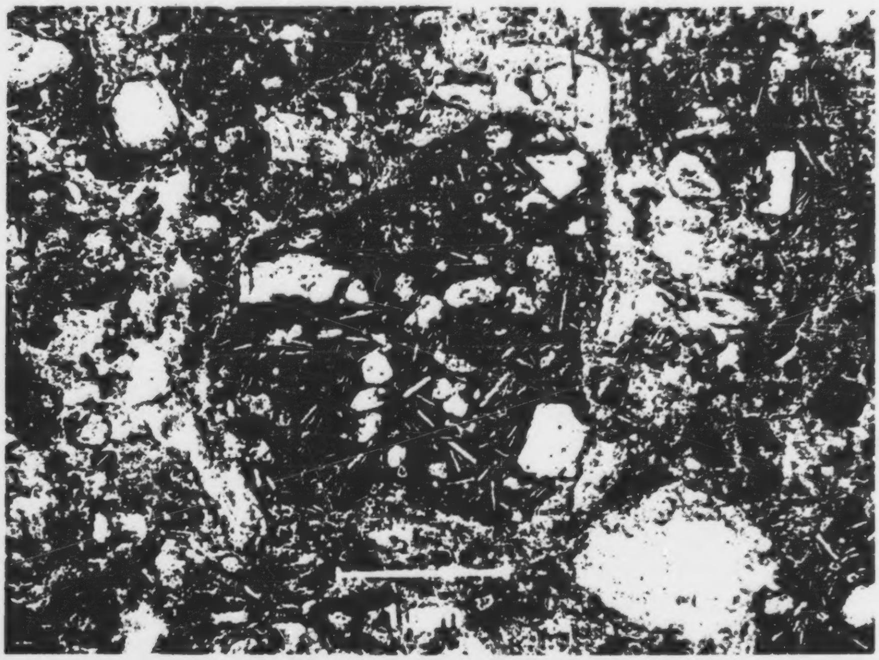


Photo 26. Photomicrograph of anomaly 425-17. Subangular to subrounded auotlith displaying phenocrysts of mica and pyroxene. Crossed nicols.

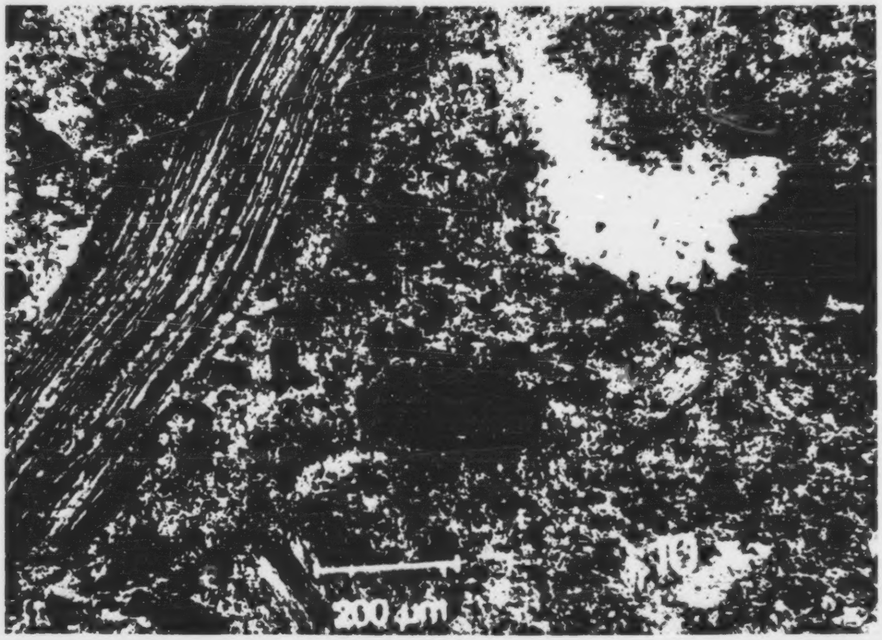


Photo 27. Photomicrograph of anomaly 42J/6-3-1. Bent phlogopite mica in altered fine-grained groundmass. Uncrossed nicols.

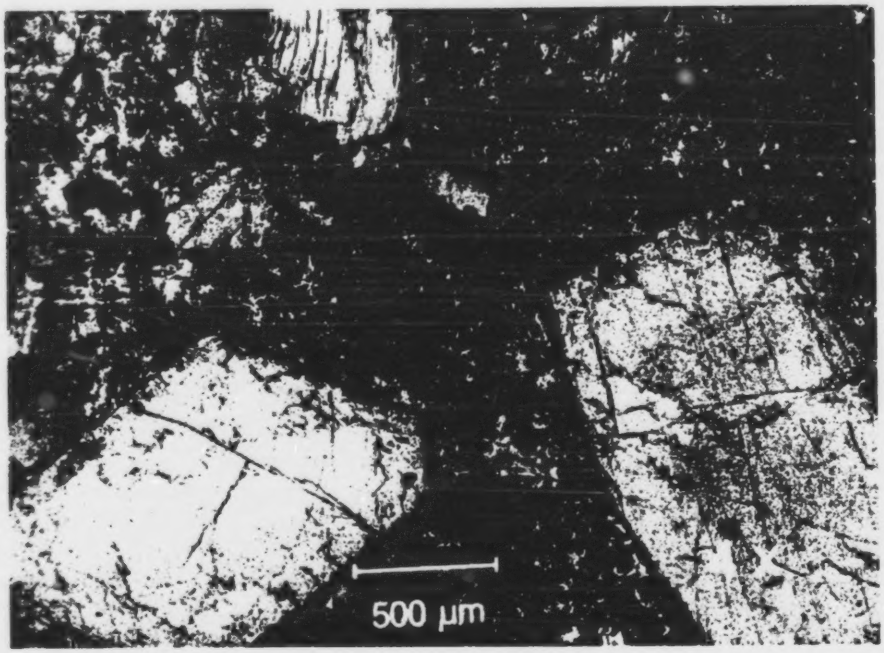


Photo 28. Photomicrograph of anomaly 42J/6-12. Mica and pyroxene macrocrysts in fine-grained matrix. Uncrossed nicols.

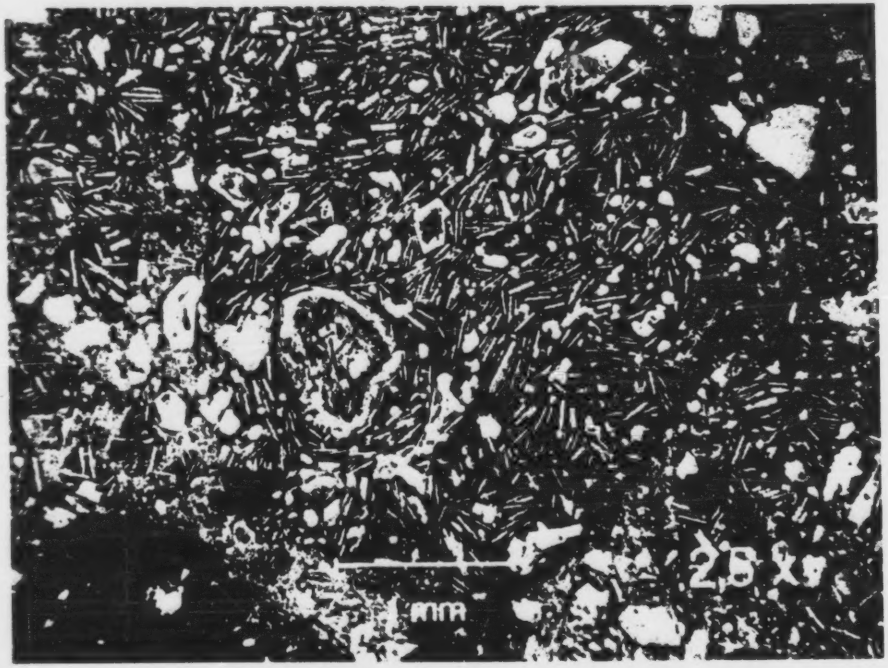


Photo 29. Photomicrograph of anomaly 42J/11-6, depth 148.5 feet. Rounded autolith structure displaying porphyritic texture. Uncrossed nicols.

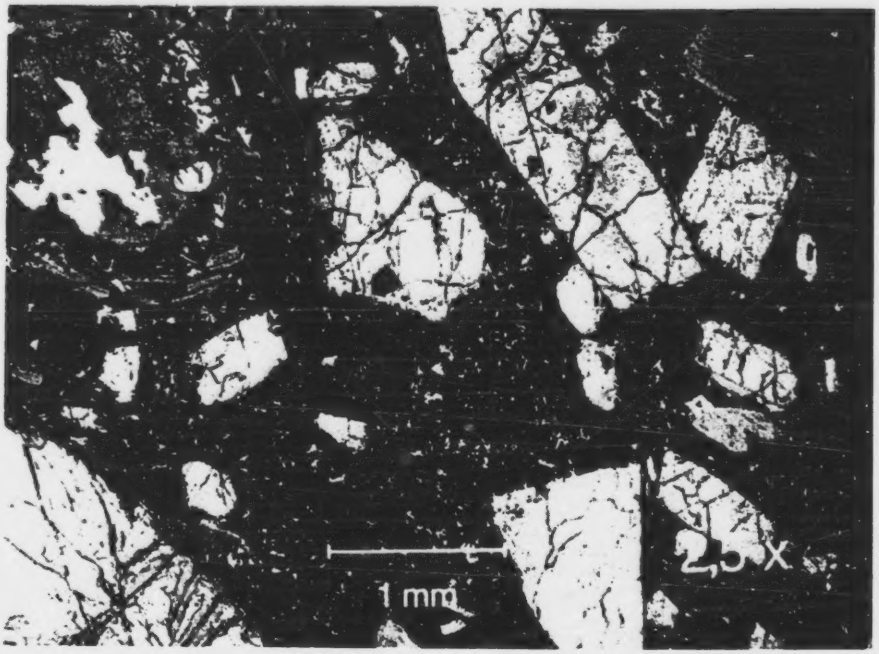


Photo 30. Photomicrograph of anomaly 42J/11-8B, hole 1, depth 74.0 m. Mica and pyroxene phenocrysts in fine-grained matrix. Uncrossed nicols.

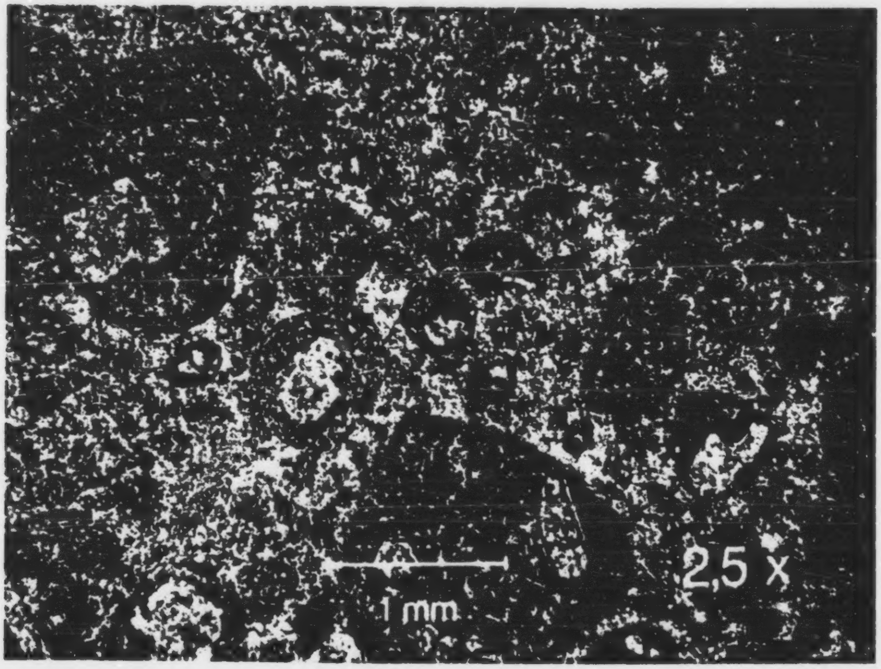


Photo 31. Photomicrograph of anomaly 42J/11-8B. Rounded autolith structures in very fine-grained matrix. Uncrossed nicols.

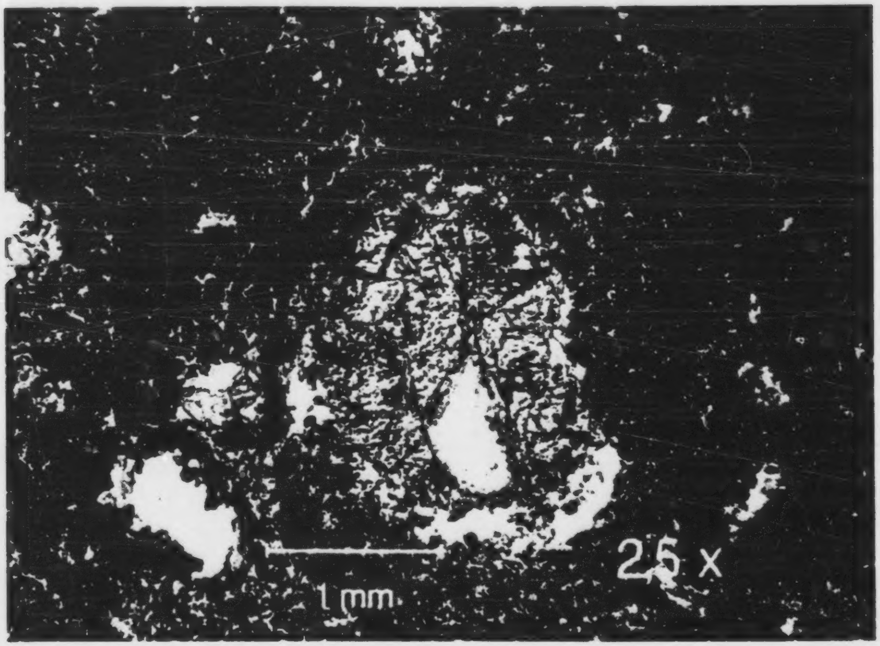


Photo 32. Photomicrograph of anomaly 42J/11-7-1, depth 77.4 m. Pelletal structure with altered core enveloped in shell of fine-grained altered mafic minerals. Large pelletal structure surrounded by many smaller structures. Uncrossed nicols.

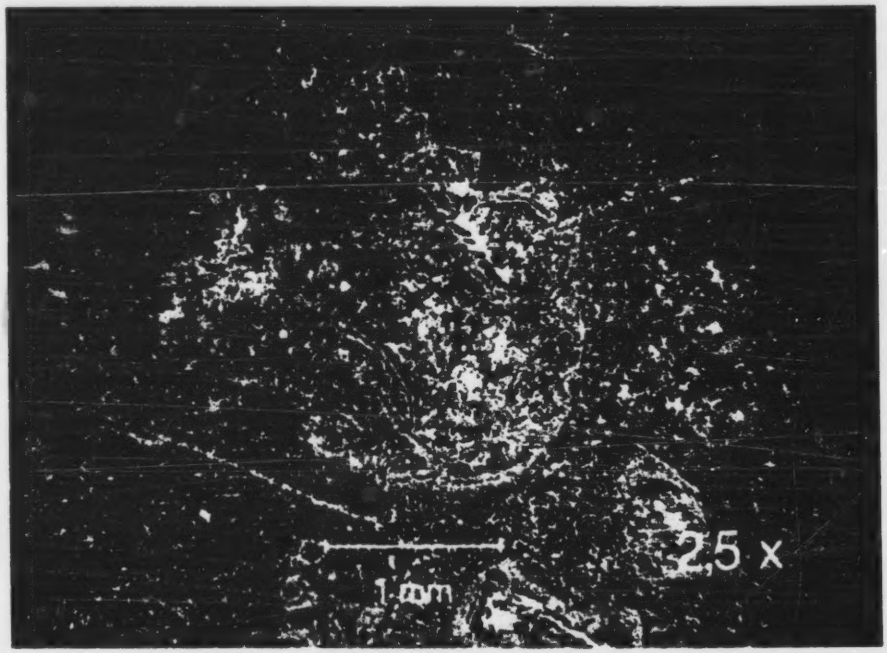


Photo 33. Photomicrograph of anomaly 42J/7-1, depth 96.5 m. Pelletal structure, serpentinized olivine(?) core enveloped in very fine-grained altered mafic minerals. Uncrossed nicols.

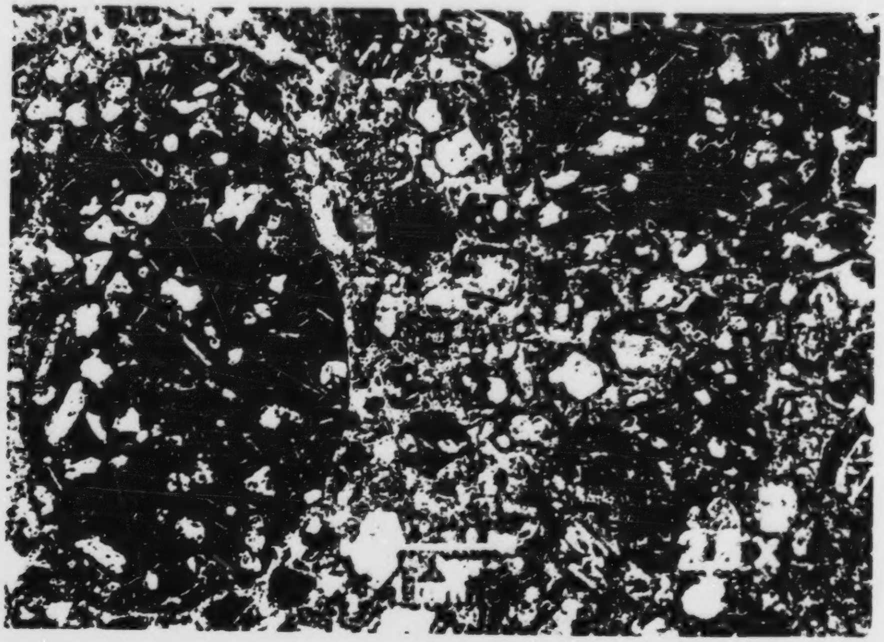


Photo 34. Photomicrograph of anomaly 42J/12-3. Rounded autolith displaying phenocrysts of mica and pyroxene. Crossed nicols.

Photo 35. Photomicrograph of anomaly 42I/5-12, depth 74.0 m. Rounded autolith structures displaying porphyritic textures due to pyroxene and mica phenocyrsts. Uncrossed nicols.

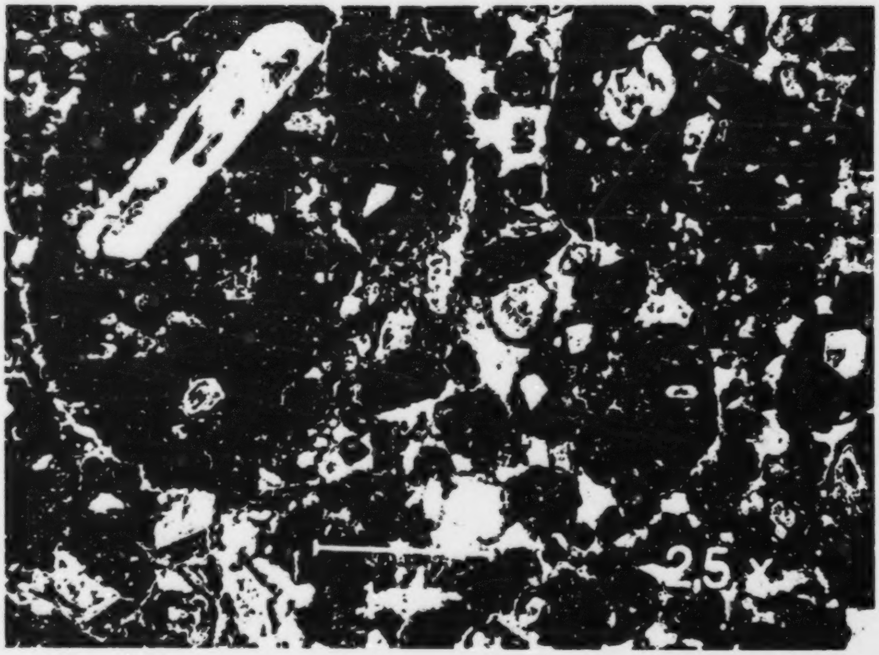


Photo 36. Photomicrograph of anomaly 42I/5-113, depth 128.0 m. Autolith structures with porphyritic textures resulting from mica and pyroxene phenocrysts. Uncrossed nicols.

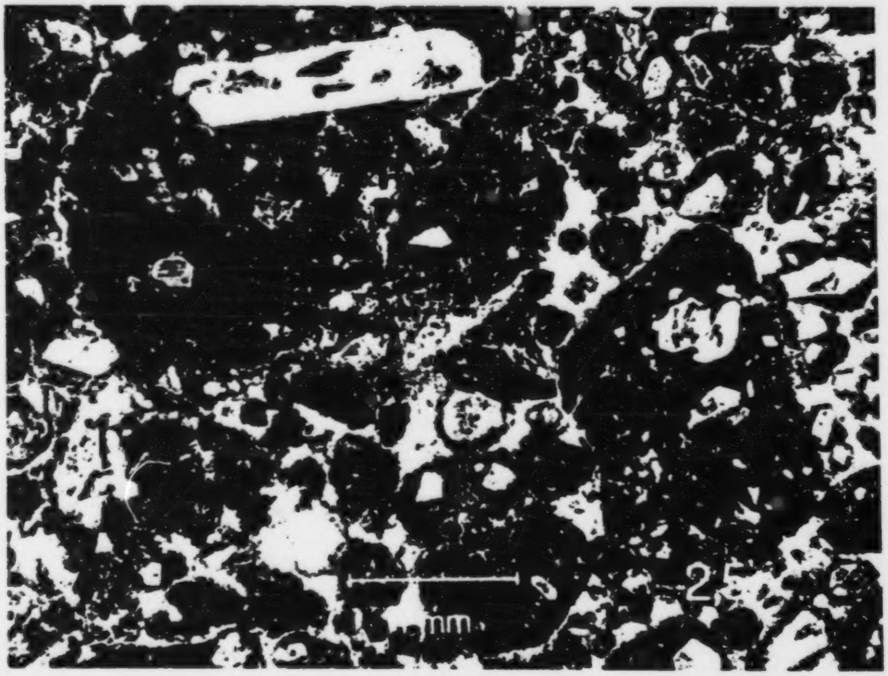


Photo 37. Photomicrograph of anomaly 42I/8-1, depth 208.0 feet. Rounded to subrounded autoliths displaying mica and pyroxene phenocrysts. Uncrossed nicols.

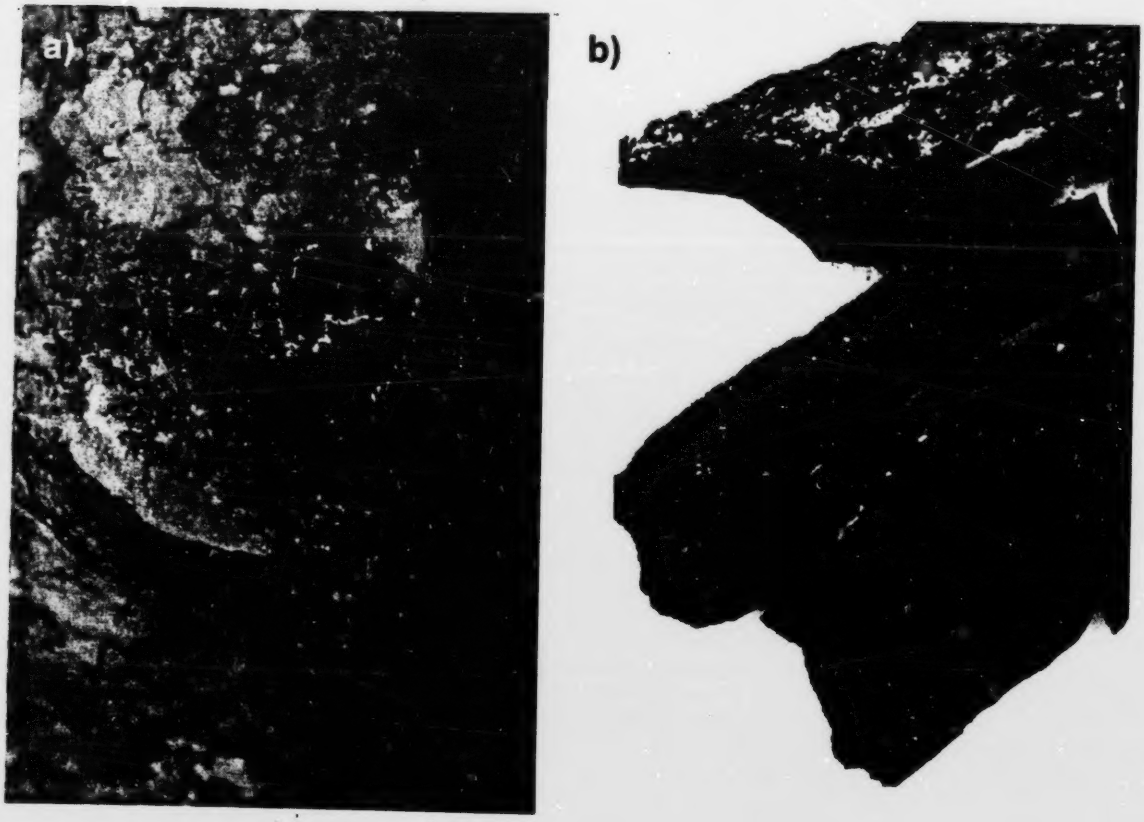


Photo 38. Carbonized wood fragments from anomaly I5-10: a) exposed in broken drill core (±1.0 cm); b) fragments recovered during crushing of core (>1.0 cm). Sample from Murgor Resouces Inc.

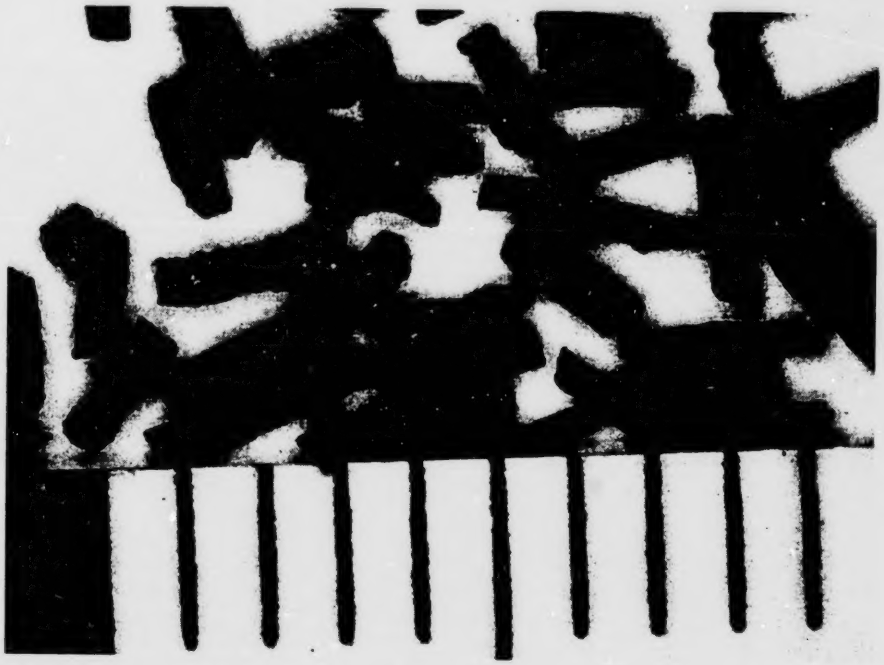


Photo 39. Pyritized worm burrows that are common in the heavy mineral concentrate from anomaly 42I/5-10. Distance between the lines on the scale bar is 1.0 mm. Sample from Murgor Resources Inc.

Photo 40. Pyritized fossils that are common in the heavy mineral concentrate from the 42I/5-10 anomaly. Distance between the lines on the scale bar is 1.0 mm. Sample from Murgor Resources Inc.

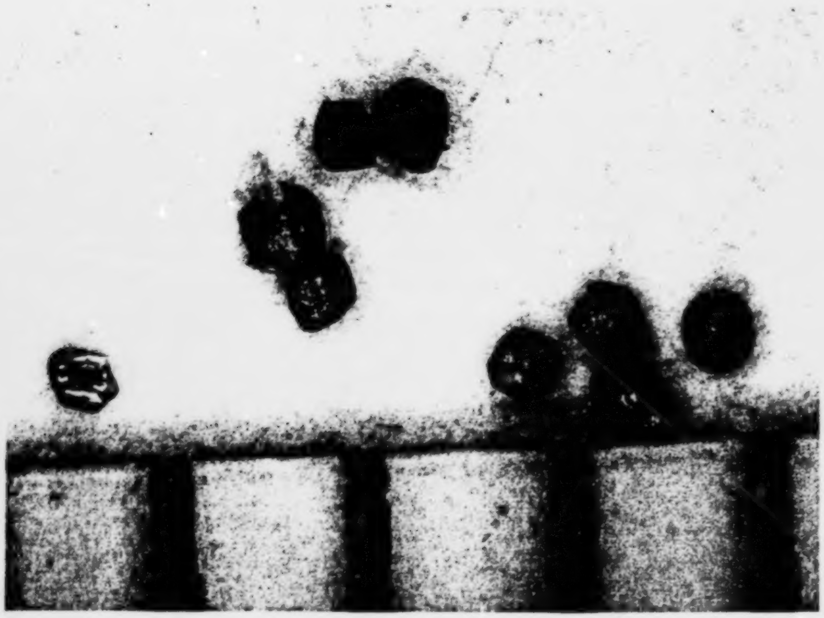


Photo 41. Dodecahedrons of synthetic diamond. Synthetic diamond contamination from the drill bits was common for anomaly 42I/5-10. The synthetic diamond is a yellow green in colour and relatively easy to recognize. Distance between the lines on the scale bar is 1.0 mm. Sample from Murgor Resources Inc.

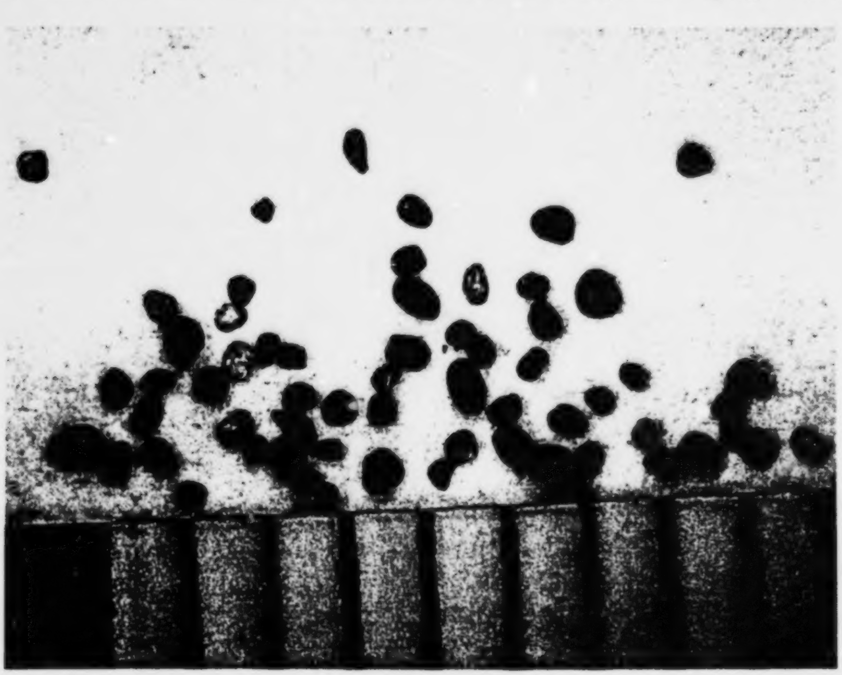


Photo 42. Rounded, frosted, bead-like grains of almandine garnet from anomaly 42I/5-10. Garnet is likely detrital and derived from enclosing Paleozoic rocks. Distance between lines on the scale bar is 1.0 mm. Sample from Murgor Resources Inc.

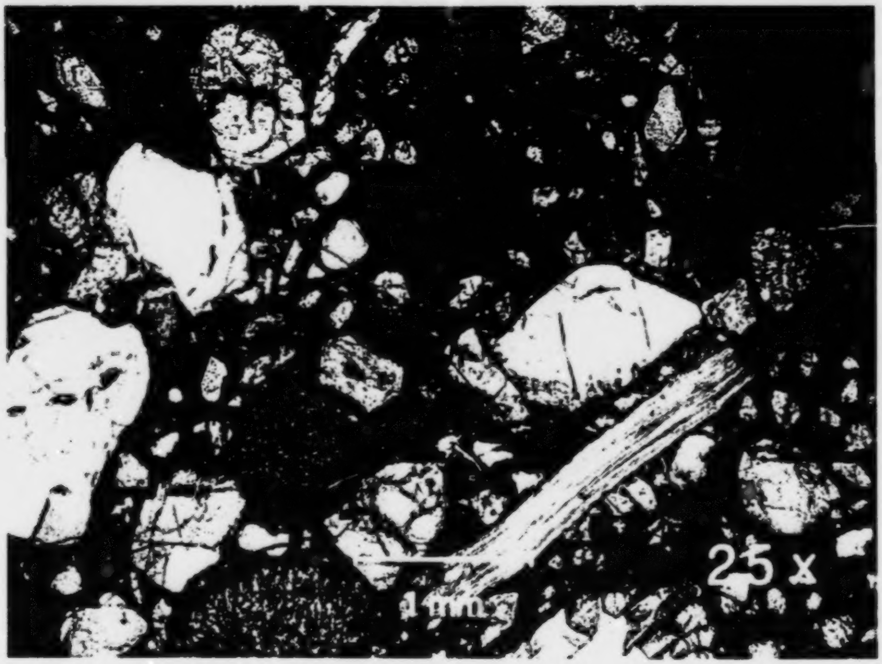


Photo 43. Photomicrograph of serpentinized olivine and phlogopite displaying bent (001) cleavage in very fine-grained mafic matrix. Hypabyssal Six-Pak complex sample SP94-8, depth 806.0 feet. Uncrossed nicols. Sample from Ashton Mining of Canada Inc.

Table 1.1. Ilmenite inclusions in diamond.

Sample	SiO_2	TiO_2	Al_2O_3	Cr_2O_3	FeO(t)	MgO	CaO	MnO	NiO	Na_2O	K_2O	Total	Fe_2O_3	FeO (new)	TOTAL	ilmenite	geikeite	hematite	Total
1	0.04	52.10	0.78	0.01	33.80	11.80	0.04	0.26	0.03	0.03	0.01	98.90	9.19	25.53	99.78	50.36	41.48	8.16	100.00
2	0.01	52.90	0.47	0.44	36.50	9.10		0.27				99.70	6.01	31.09	100.29	62.17	32.42	5.41	100.00
3	0.16	52.50	0.48	2.54	29.50	13.00	0.04	0.29	0.05	0.17	0.00	98.60	6.29	23.84	99.19	47.84	46.48	5.68	100.00
4	0.18	50.50	0.22	0.03	47.40	0.11	0.07	0.73				99.20	3.11	44.60	99.55	96.55	0.42	3.03	100.00
5	0.12	51.90	0.21	-0.10	47.60	0.14	0.03	0.64				100.70	1.91	45.88	100.73	97.64	0.53	1.83	100.00
6	0.16	51.40	0.36	0.04	48.20	0.14	-0.10	0.68				101.00	2.89	45.60	101.17	96.72	0.53	2.75	100.00
7	0.66	52.20	1.20	3.33	19.80	19.60	0.35	0.89	0.05	0.00	0.00	98.10	9.33	11.40	99.01	22.57	69.12	8.31	100.00
8	0.00	39.49	2.53	0.18	51.82	3.15		0.23				97.40	24.62	29.67	99.87	63.99	12.11	23.90	100.00
9	-0.02	52.40	0.90	8.80	20.10	16.60		0.20	0.34			99.34	3.46	16.99	99.67	35.30	61.47	3.24	100.00
10	-0.02	52.50	0.86	8.90	20.30	16.40		0.21	0.33			99.50	3.19	17.43	99.80	36.25	60.77	2.98	100.00
11	0.19	49.60	0.69	2.17	33.80	10.50	0.00	0.18	0.24	0.00	0.00	97.37	9.00	25.71	98.27	53.04	38.61	8.35	100.00
12	0.00	48.30	0.56	0.05	37.90	10.70	0.08	0.23	0.00	0.00	0.00	97.82	15.41	24.03	99.36	48.03	38.11	13.86	100.00
13	0.07	49.60	0.55	0.53	40.90	8.11	0.05	0.25	0.00	0.00	0.00	100.06	12.21	29.92	101.28	60.00	28.98	11.01	100.00
14	0.03	51.83	0.01	0.01	46.63	0.47	0.04	0.68	0.01	0.01	0.01	99.73	1.75	45.06	99.89	96.52	1.79	1.69	100.00
15	0.22	50.10	0.15	0.03	48.00	0.16	0.01	0.74	0.00	0.00	0.00	99.41	4.15	44.27	99.83	95.37	0.61	4.02	100.00
16	0.12	51.90	0.21	0.00	47.60	0.14	0.03	0.64	0.00	0.00	0.00	100.64	1.91	45.88	100.83	97.64	0.53	1.83	100.00
17	0.20	54.90	0.90	0.00	30.80	12.80	0.04	0.25	0.00	0.00	0.00	99.89	4.79	26.49	100.37	51.49	44.33	4.18	100.00
18	0.00	53.80	0.49	0.44	30.40	12.90	0.02	0.28	0.00	0.00	0.00	98.33	5.91	25.08	98.92	49.44	45.31	5.24	100.00
19	0.16	48.50	0.44	0.24	39.30	9.20	0.36	0.21	0.00	0.00	0.00	98.71	13.96	26.74	99.81	54.11	33.18	12.71	100.00
20	0.00	54.05	0.67	0.00	41.20	0.00	4.57	0.15				100.70	0.00	41.20	100.64	100.00	0.00	0.00	100.00
21	0.12	53.29	0.42	0.00	41.00	4.93	0.34	0.19				100.30	2.61	38.65	100.55	79.51	18.07	2.42	100.00

Notes: Locations and references for samples: (1) Finsch Pipe (Tsai 1978); (2) Mir Pipe (Sobolev et al. 1976 as cited in Sobolev et al. 1997); (3) Kasai, Zaire (Mvuemba 1980); (4 to 6) Brazil (Meyer and Sivisero 1975); (7) Sloan Pipe (Meyer and McCallum 1986); (8) Monastery Pipe (Moore and Gurney 1986); (9 to 10) Sputnik Pipe (Sobolev et al. 1997); (11 to 13) South Africa, (14) Australia, (15 to 18) North America, (19) USSR ([11 to 19] Fipke 1989); (20 to 21) George Creek (McCammon et al. 1998).

Table 1.2. Brief thin section descriptions of Early Jurassic kimberlite pipes of the Attawapiskat area. Samples provided to the Ontario Geological Survey by Monopros Limited (1995–1997), as part of the province-wide kimberlite study. Samples and thin sections are archived at the Royal Ontario Museum, Toronto, Ontario.

ALPHA (A)
Alpha-1 (157.5 m): Altered kimberlite
One subrounded xenolith of fine to medium grained mafic rock consisting of saussuritized plagioclase and chlorite, iron-oxide replaced pyroxene. One very small subrounded xenolith of carbonate rock. The host rock contains anhedral to subhedral inequigranular disseminated opaques. Olivine is relatively fresh and displays anhedral rounded to angular outlines. Some chlorite alteration along the edges of some grains. Trace of xenocrystic apatite(?). Phlogopite is present as tabular anhedral grains. The fine grained matrix consists of a mixture of carbonate, chlorite and serpentine. The specimen is cut by a carbonate filled fracture. The sample displays a fine to medium grained inequigranular seriate allotriomorphic texture.

ALPHA (B)
Alpha-1 (157.5 m): Altered kimberlite
Phlogopite is present as anhedral tabular grains displaying the occasional bent (001) cleavage. The phlogopite is altering to chlorite and carbonate. Olivine is present as fresh rounded to angular grains. The olivine looks fractured. Opaques occur as anhedral disseminated grains with the rare much larger grain. The rock matrix consists of very fine grained carbonate, chlorite and serpentine. A very fine to medium grained inequigranular seriate allotriomorphic texture is present.

ALPHA-NORTH (A)
Alpha-1-North (101.0 m): Altered kimberlite
Opaques are present as anhedral to subhedral disseminated grains. There is the rare much larger opaque grain. Olivine is present as anhedral angular to rounded grains displaying minor alteration to chlorite and serpentine. Phlogopite is tabular in outline, anhedral, and is altering to chlorite. Very fine grained carbonate, chlorite and serpentine form the matrix of the rock. One small rounded carbonate clast. The rock texture is very fine to medium grained inequigranular seriate allotriomorphic.

ALPHA-NORTH (B)
Alpha-1-North (101.0 m): Altered kimberlite
Opaques are anhedral in form and disseminated throughout with the rare much larger opaque grain. Olivine is present as anhederal rounded to subrounded grains with only very minor alteration to chlorite and serpentine. Phlogopite is present as anhedral to subhedral grains; often displaying bent (001) cleavage. The very fine grained matrix consists of carbonate, chlorite and serpentine. The specimen has a very fine to medium grained inequigranular seriate allotriomorphic texture.

BRAVO-1 (A)
Bravo-1 (34.0 m): Altered kimberlite
Angular xenolith present that was likely formerly a mafic rock of gabbro composition. The xenolith consists of saussuritized plagioclase(?) and chlorite and iron oxide replaced pyroxene(?). Anhedral olivine occurs in rounded to subrounded grains altering to chlorite, serpentine and carbonate. Phlogopite is present as anhedral tabular grains undergoing alteration to chlorite. Some mica grains display bent (001) cleavage. A very fine grained matrix is composed of chlorite, serpentine and carbonate. The sample displays a very fine to medium grained inequigranular seriate allotriomorphic texture.

BRAVO-1 (B)
Bravo-1 (34.0 m): Altered kimberlite
One relatively small rounded xenolith of carbonate rock. 1 grain of possibly xenocrystic plagioclase. Olivine forms anhedral rounded to subrounded grains altering to chlorite, serpentine. One relatively large serpentinized olivine megacryst. Anhedral disseminated opaques occur throughout the sample. The phlogopite mica is anhedral to subhedral in form and may display bent (001) cleavage. The mica is altering to chlorite. A very fine to medium grained inequigranular seriate allotriomorphic texture describes the specimen.

CHARLIE-1 (A)
Charlie-1 (49.0 m): Altered kimberlite
Olivine occurs as rounded to subrounded serpentinized grains with some chlorite. The phlogopite mica is present as anhedral tabular grains altering to chlorite. Disseminated anhedral opaques occur throughout the sample. A very fine grained carbonate, chlorite and serpentine matrix forms the host to the olivine and mica. A very fine to medium grained inequigranular seriate allotriomorphic texture is present. A pelletal structure is moderately developed. The pelletal structures are sometimes cored by an altered olivine grain wrapped in fine grained kimberlite..

CHARLIE-1 (B)
Charlie-1 (49.0 m): Altered kimberlite
Anhedral rounded to subrounded olivine grains display alteration to serpentine and chlorite. Phlogopite mica is present as tabular anhedral grains altering to chlorite and displaying some grains with bent (001) cleavage. Disseminated anhedral opaques are present throughout the specimen. A very fine grained matrix of carbonate, chlorite and serpentine hosts the olivine and mica. The texture is very fine to medium grained inequigranular seriate allotriomorphic. Altered olivine may core some pelletal structures.

DELTA-1 (A)
Delta-1 (225.5 m): Altered kimberlite
Olivine is present as rounded to subrounded grains displaying a weak alteration to chlorite and serpentine. Phlogopite forms anhedral tabular grains altering to chlorite which may display bent (001) cleavage. Opaques are disseminated throughout the specimen as anhedral grains. A very fine grained matrix is comprised of carbonate, chlorite and serpentine. The sample displays a very fine to medium grained inequigranular seriate allotriomorphic texture.

Table 1.2. continued.

DELTA-1 (B)
Delta-1 (225.5 m): Altered kimberlite
Anhedral rounded to angular olivine grains altering to chlorite and serpentine make up a dominant component of the sample. Phlogopite is present as anhedral tabular grains with bent (001) cleavage. Some grains are altering to chlorite. Opaques are present as anhedral disseminated grains. Rarely there is a larger opaque grain present. The rock matrix consists of a very fine grained chlorite, serpentine and carbonate. A very fine to medium grained inequigranular seriate allotriomorphic texture is displayed by the specimen.

GULF-1 (A)
Gulf-1 (124.0 m): Altered kimberlite
Anhedral rounded to subrounded grains of olivine are present altering to serpentine and chlorite. Phlogopite is anhedral, tabular in outline. The mica is altering to chlorite and some grains display bent (001) cleavage. Disseminated anhedral opaques occur throughout the sample. There is an occasional opaque grain that is larger than most. A very fine grained carbonate, serpentine and chlorite compose the matrix. The sample has a fine to medium grained inequigranular seriate allotriomorphic texture.

GULF-1 (B)
Gulf-1 (124.0 m): Altered kimberlite
Opaques occur as anhedral disseminated grains with the rare grain that is much larger than most. Anhedral rounded to subrounded olivine is undergoing alteration to serpentine and chlorite. Phlogopite is present as anhedral tabular grains undergoing alteration to chlorite and occasionally displaying bent (001) cleavage. The sample matrix is composed of very fine grained carbonate, serpentine and chlorite. The texture is very fine to medium grained inequigranular seriate allotriomorphic.

INDIA (A)
India-1 (114.0 m): Altered kimberlite
Phlogopite mica is present as anhedral tabular grains undergoing alteration to chlorite. Some mica grains display bent (001) cleavage. Rounded to subangular grains of anhedral olivine display replacement by chlorite and serpentine. Only traces of relict olivine remain. Anhedral disseminated grains of opaques occur through the sample. There is the occasional rare grain of opaque that is much larger than most. The rock has a very fine to medium grained inequigranular seriate allotriomorphic texture.

INDIA (B)
India-1 (114.0 m): Altered kimberlite
Trace of xenocrystic quartz and plagioclase. Olivine is present as anhedral rounded to angular grains undergoing replacement by chlorite and serpentine. Opaques are present as anhedral disseminated grains and there are the rare grains that are much larger than most. Phlogopite mica displays anhedral tabular outlines with the occasional grain having bent (001) cleavage. The mica is undergoing some chlorite alteration. One very small rounded xenolith of carbonate rock. The specimen has a very fine to medium grained inequigranular seriate allotriomorphic texture.

TANGO-1 (A)
Tango-1 (164.0 m): Altered kimberlite
Olivine forms anhedral subrounded to angular grains undergoing alteration to serpentine and chlorite. Trace amounts of anhedral disseminated opaques. Minor quantities of phlogopite are present as anhedral grains, some of which display bent (001) cleavage. Traces of xenocrystic microcline and amphibole. One small saussuritized xenolith composed of quartz, plagioclase and biotite. Matrix is very fine grained and the outlines of a former more clastic nature can be observed. The matrix is composed of very fine grained chlorite, carbonate and serpentine. The rock texture is very fine to medium grained inequigranular seriate allotriomorphic.

TANGO-1 (B)
Tango-1 (164.0 m): Altered kimberlite
Traces of anhedral disseminated opaques. Olivine is present as anhedral angular to subrounded grains being replaced by serpentine. Phlogopite is present as anhedral tabular grains often with bent (001) cleavage. One small autolith was observed and the sample is cut by a thin carbonate-filled fracture. Very fine grained chlorite, carbonate and serpentine compose the matrix. The specimen displays a very fine to medium grained inequigranular seriate allotriomorphic texture.

TANGO-EXTENSION (A)
Tango-Extension-1 (117.0 m): Altered kimberlite breccia
The specimen contains abundant subrounded to subangular xenoliths of very fine grained carbonate, one of which is iron stained. Anhedral olivine displaying rounded to angular outlines is abundant. The olivine is undergoing alteration to serpentine and chlorite. One small autolith was observed as well as trace amounts of opaques. Carbonate, serpentine and chlorite make up the very fine grained matrix. The rock texture is very fine to medium grained inequigranular seriate allotriomorphic.

TANGO-EXTENSION (B)
Tango-Extension-1 (117.0 m): Altered kimberlite breccia
Abundant subrounded to subangular xenoliths of very fine grained carbonate and one small xenolith of pyroxene and saussuritized plagioclase. Olivine forms anhedral grains undergoing replacement serpentine. Trace amounts of opaques are scattered through the sample. The matrix is comprised of very fine grained carbonate, chlorite and serpentine. A very fine to medium grained inequigranular seriate allotriomorphic texture is displayed.

Table 1.2. continued.

UNIFORM-1 (A)
Uniform-1 (66.1 m): Altered kimberlite
Anhedral round to subangular olivine is abundant and is being replaced by chlorite and serpentine. Traces of phlogopite and opaques are present. The very fine grained matrix is composed of chlorite, serpentine and carbonate. The sample as a very fine to medium grained inequigranular seriate allotriomorphic texture.

UNIFORM-1 (B)
Uniform-1 (66.1 m): Altered kimberlite
Anhedral rounded to subangular olivine is present undergoing replacement by serpentine and chlorite. Phlogopite is present in trace to minor amounts as tabular anhedral grains which may display bent (001) cleavage. Opaques are present in trace amounts. One opaque grain of approximately 8 mm size. Carbonate, serpentine and chlorite comprise a very fine grained matrix. The specimen displays a very fine to medium grained inequigranular seriate allotriomorphic texture.

VICTOR-1 (A)
Victor-1 (75.6 m): Altered kimberlite
Opaques are present as anhedral disseminated grains throughout the sample. Several xenoliths are present as subangular to subrounded very fine grained carbonate. Abundant olivine is present as anhedral grains partially replaced by chlorite and serpentine. Minor phlogopite displays a tabular anhedral form and some grains have bent (001) cleavage. Possible minor amounts of pyroxene. The very fine grained matrix is composed of carbonate, chlorite and carbonate. A very fine to medium grained inequigranular seriate allotriomorphic texture represents the specimen.

VICTOR-1 (B)
Victor-1 (75.6 m): Altered kimberlite
Anhedral disseminated opaques are present throughout the sample. Trace amounts of xenocrystic plagioclase and amphibole. Phlogopite displays anhedral tabular form and some grains have bent (001) cleavage. Possibly some trace to minor amounts of pyroxene. Olivine is abundant forming anhedral subrounded to subangular grains undergoing replacement by serpentine. A very fine grained matrix is composed of chlorite, serpentine and carbonate. The sample displays a very fine to medium grained inequigranular seriate allotriomorphic texture.

WHISKEY-1 (A)
Whiskey-1 (near surface reverse circulation rock chips): Altered kimberlite
Olivine displays anhedral rounded to subrounded outlines undergoing replacement by serpentine. Margins of some olivine grains are turbid to almost opaque from alteration (weathering?). Anhedral disseminated opaques occur throughout the sample. Trace to minor amounts of phlogopite occurs as tabular subhedral grains. A very fine grained matrix consists of serpentine, chlorite, carbonate and iron oxide (weathering?). The specimen displays a very fine to medium grained inequigranular seriate allotriomorphic texture.

WHISKEY-1 (B)
Whiskey-1 (near surface reverse circulation rock chips): Altered kimberlite
Opaque grains are anhedral in form and disseminated throughout the specimen. Olivine is present as anhedral rounded to subrounded grains altering to serpentine. The rims of the grains are nearly opaque to opaque from alteration (weathering?). Minor phlogopite occurs as tabular anhedral to subhedral grains, which may display kinking of the (001) cleavage. The matrix consists of very fine grained carbonate, chlorite, serpentine and iron oxide (weathering?). The sample has a very fine to medium grained inequigranular seriate allotriomorphic texture.

X-RAY (A)
X-Ray-1 (196.0 m): Altered kimberlite breccia
Xenoliths are abundant. The xenoliths are composed rounded gabbro fragments often mantled with very fine grained kimberlite and angular to subangular fossiliferous limestone. Angular plagioclase xenocrysts were observed in trace amounts. Olivne is abundant as anhedral subangular to subrounded grains. The olivine is being altered to serpentine and chlorite. Possible trace amounts of pyroxene. Anhedral disseminated opaques occur in trace amounts. The very fine grained matrix is composed of carbonate, chlorite and serpentine.

X-RAY (B)
X-Ray-1 (196.0 m): Altered kimberlite breccia
Subangular to subrounded xenoliths of very fine grained carbonate and fine to medium grained gabbro. The more mafic xenoliths display a higher degree of rounding than the carbonate xenoliths. Trace amounts of disseminated anhedral opaques occur throughout the sample. Possibly some pyroxene is present. Anhedral olivine displaying subangular to subrounded outlines is abundant and is undergoing alteration to serpentine and chlorite. Very fine grained carbonate, chlorite and serpentine make up the matrix. The specimen texture is very fine to medium grained inequigranular seriate allotriomorphic.

X-RAY-1 (A)
X-Ray-1 (67.0 m): Altered kimberlite
Minor amounts of anhedral disseminated opaques. Olivine is present as anhedral rounded to subrounded grains with some alteration to serpentine and chlorite. Anhedral tabular grains of phlogopite often display bent (001) cleavage. Possibly some very minor amounts of pyroxene are present. The very fine grained matrix consists of carbonate, chlorite and serpentine. A very fine to medium grained inequigranular seriate allotriomorphic texture is indicated.

X-RAY-1 (B)
X-Ray-1 (67.0 m): Altered kimberlite
Opaques are present as disseminated anhedral grains. One opaque megacryst of 6 mm. Olivine forms anhedral subrounded to subangular grains undergoing alteration to chlorite and serpentine. Possibly trace to minor amounts of pyroxene altering to chlorite. Anhedral tabular phlogopite often displays bent (001) cleavage. A very fine grained matrix consists of carbonate, chlorite and serpentine.

Table 1.2. continued.

YANKEE-1 (A)
Yankee-1 (116.0 m): Altered kimberlite
Disseminated anhedral opaques are present. Olivine is abundant as anhedral subrounded to subangular grains with very minor alteration to chlorite, serpentine. Olivine is relatively fresh. Minor phlogopite occurs as tabular anhedral grains, some with bent (001) cleavage. The matrix to the rock is composed of very fine grained carbonate, chlorite and serpentine.

YANKEE-1 (B)
Yankee-1 (116.0 m): Altered kimberlite
Abundant olivine forms anhedral subangular to subrounded grains undergoing alteration to chlorite and serpentine. Possible trace to minor amounts of pyroxene is present. Phlogopite is anhedral in outline and often displays bent (001) cleavage. Some chloritic alteration is present on the mica. A very fine grained carbonate, serpentine and chlorite compose the matrix. The rock texture is very fine to medium grained inequigranular seriate allotriomorphic.

ZULU (A)
Zulu-1 (74.0 m): Altered kimberlite
Opaques are anhderal in form and disseminated throughout. One large 5 mm opaque megacryst. Abundant olivine forms anhedral grains that are subrounded to subangular in form and undergoing alteration to chlorite and serpentine. Minor phlogopite is present as anhedral tabular grains with bent (001) cleavage. One mica grain has kink bands. The rock matrix is very fine grained carbonate, chlorite and serpentine

ZULU (B)
Zulu-1 (74.0 m): Altered kimberlite with xenoliths
Very fine grained carbonate xenoliths are present with subangular outline. Olivine is abundant as anhedral subangular to subrounded grains with some alteration to chlorite and serpentine. Phlogopite is anhedral, tabular in form and often displays bent (001) cleavage. Disseminated anhderal opaques are present in trace amounts. Very fine grained carbonate, chlorite and serpentine comprise the matrix. The sample texture is very fine to medium grained inequigranular seriate allotriomorphic.

Table 1.3. Brief thin section descriptions of Early Jurassic and Proterozoic kimberlite pipes of the James Bay region. Samples provided to the Ontario Geological Survey by KWG Resources Incorporated (1995–1997) as part of the province-wide kimberlite study. Samples and thin sections are archived at the Royal Ontario Museum, Toronto, Ontario.

EARLY JURASSIC

MACFADYEN-1

MacFadyen-1 (116.0 m): Altered kimberlite breccia
Lithic clasts of very fine grained carbonate display angular to subangular outlines. Olivine is anhedral in shape and is undergoing replacement by serpentine. Tarce of anhedral disseminated opaques. Very fine grained carbonate, serpentine and chlorite comprise the matrix. The specimen is criss-crossed by serpentine veinlets. The specimen displays a very fine to fine grained inequigranular seriate allotriomorphic texture.

MacFadyen-1 (142.0 m): Altered kimberlite breccia
Angular lithic clasts of very fine grained carbonate. Olivine forms anhedral rounded to subangular grains that are partially replaced by serpentine, carbonate and chlorite. Phlogopite forms anhedral tabular grains with bent (001) cleavage. Trace amounts of anhedral disseminated opaques. Very fine grained carbonate, serpentine and carbonate form the matrix. The rock texture is very fine to fine grained inequigranular seriate allotriomorphic.

MacFadyen-1 (218.0 m): Altered kimberlite breccia
The sample contains abundant angular to subrounded clasts of very fine grained carbonate. Olivine is abundant as anhedral rounded grains altering to serpentine, carbonate and chlorite. Minor phlogopite displays anhedral tabular outlines and bent (001) cleavage. The opaques are anhedral and disseminated. Carbonate, chlorite and serpentine form the fine grained matrix. The specimen displays a very fine to fine grained inequigranular seriate allotriomorphic texture.

MACFADYEN-2

MacFadyen-2 (100.0 m): Altered kimberlite breccia
Lithic fragments are rounded to subangular in shape and composed of very fine grained carbonate. Abundant olivine displays an anhedral form as angular to subrounded grains and is undergoing replacement by serpentine. Minor phlogopite occurs as tabular anhedral grains with bent (001) cleavage. Opaques are anhedral in shape and disseminated throughout the sample. A very fine grained matrix is composed of carbonate, chlorite and serpentine. The rock displays a very fine to fine grained inequigranular seriate allotriomorphic texture.

MacFadyen-2 (137.3 m): Altered kimberlite breccia
Lithic fragments of angular to subrounded shape are common. The lithic clasts are of very fine grained carbonate. Abundant olivine forms anhedral rounded grains extensively replaced by serpentine, carbonate and chlorite. One large olivine megacryst of 6 mm diameter almost completely replaced by serpentine. Minor phlogopite is present as anhedral tabular grains displaying bent (001) cleavage. Opaques are anhedral and disseminated. A very fine grained matrix is present composed of carbonate, chlorite and serpentine. A very fine to medium grained inequigranular seriate allotriomorphic texture is displayed by the sample.

MacFadyen-2 (181.0 m): Altered kimberlite
Rare lithic fragments of very fine grained carbonate. Olivine is abundant and forms anhedral grains undergoing replacement by carbonate, chlorite and serpentine. Minor phlogopite is present as anhedral tabular grains displaying bent (001) cleavage. Opaques displaying anhedral form are disseminated throughout the rock. The matrix is composed of very fine grained serpentine, carbonate and chlorite. The specimen has a very fine to medium grained inequigranular seriate allotriomorphic texture.

PROTEROZOIC

KYLE LAKE No. 1

94-09 (427.0 feet): Regolith
Rounded grains of quartz are abundant. A few scattered grains of angular plagioclase and microcline. Trace to minor amounts of anhedral opaques are disseminated throughout. Carbonate is a major rock component forming an interlocking mosaic of grains. The texture is very fine to medium grained inequigranular seriate alltriomorphic.

94-09 (522.0 feet): Pervasively altered kimberlite
Olivine is a dominant component forming anhedral rounded to subangular grains that are completely replaced by serpentine. Olivine grains up to 5 mm in diameter. Trace to minor amounts of mica replaced by chlorite. The rock matrix consists of very fine grained carbonate, serpentine and chlorite. A very fine to medium grained inequigranular porphyritic seriate allotriomorphic texture is displayed by the sample.

94-09 (625.0 feet): Pervasively altered kimberlite
Anhedral opaques occur disseminated throughout the rock. Olivine forms over half of the rock and has been completely replaced by serpentine. The outline of the grains is round to subrounded. A very fine grained matrix of chlorite, carbonate and serpentine is present. The rock has a very fine to medium grained inequigranular porphyritic seriate allotriomorphic texture.

Table 1.3. continued.

DR95-26-1 (?): Pervasively altered kimberlite
Opaques are common forming anhedral disseminated grains throughout the specimen. Possible mica has been replaced by chlorite and only occurs in minor quantities. Olivine is abundant and forms anhedral rounded to subrounded grains which are totally replaced by serpentine. A fine grained mixture of chlorite, serpentine and carbonate compose the matrix. The rock texture is very fine to medium grained inequigranular porphyritic seriate allotriomorphic.

DR95-26-2 (?): Pervasively altered kimberlite
The rock contains disseminated anhedral opaques in minor quantities. Olivine is abundant as anhedral rounded to subrounded grains totally altered to serpentine. One olivine grain is a megacryst exceeding 1 cm. Minor amounts of possible mica are altered to chlorite. A very fine grain matrix is composed of chlorite, serpentine and carbonate. The rock displays a very fine to coarse grained ineguigranular porphyritic seriate allotriomorphic texture.

DR95-26 (393.5 m):Granodiorite
Microcline forms anhedral interlocking interstitial grains. Quartz is abundant as anhedral interstitial grain. Weakly to moderately saussuritized anhedral plagioclase (An 32-40) is the dominant feldspar. Sample traversed by a carbonate-filled fracture. Biotite forms anhedral to subhedral tabular grains. A medium grained equigranular allotriomorphic texture with curved grained boundaries describes the rock.

DR95-26 (409.7 m): Pervasively altered kimberlite
Trace amounts of poikilitic rounded grains of garnet enclosed in serpentinized olivine grains. Trace of anhedral disseminated opaques. Olivine is the dominant mineral and forms anhedral rounded to subangular grains completely replaced by serpentine. Possible mica is present but replaced by chlorite. Carbonate, serpentine and chlorite make up the fine grained rock matrix. The specimen displays a very fine to coarse grained inequigranular porphyritic seriate allotriomorphic texture.

DR95-26 (411.0 m): Altered granodiorite
Quartz forming anhedral interstitial grains is a major component. Microcline is a minor but significant component forming anhedral interstitial grains. Plagioclase (An 32-45) forms interlocking moderately saussuritized grains of anhedral outline. The mafic mineral is biotite which forms anhedral to subhedral grains. The rock displays a medium grained equigranular allotriomorphic texture with cuspate to serrate grain boundaries.

DR96-58 (266 m): Pervasively altered kimberlite
Minor quantities of anhedral disseminated opaques occur throughout the sample. Olivine is dominant component of the rock. Olivine forms anhedral grains of rounded to subrounded outline totally replaced by serpentine. Possible mica is present but it has been replaced by chlorite. Serpentine, chlorite and carbonate make up a fine grained matrix to the sample. The specimen displays a very fine to medium grained inequigranular porphyritic seriate texture.

KYLE LAKE No. 2

95-34 (171.05 m): Pervasively altered kimberlite
Opaques are present as anhedral to euhedral disseminated grains. Olivine is abundant as anehedral rounded to subrounded grains replaced by serpentine and chlorite. One former olivine grain encloses an opaque grain. The rock matrix consists of very fine grained serpentine, chlorite and carbonate. The rock texture is very fine to medium grained inequigranular porphyritic seriate allotriomorphic.

95-34 (192.75 m): Altered granodiorite
Quartz is present as a major component as anhedral grains interlocking with feldspar. The microcline is present as fresh-appearing anhedral interstitial grains. Plagioclase (An 28-39) is weakly to moderately saussuritized. The plagioclase forms anhedral grains interlocking with quartz and microcline. Minor biotite occurs as anhedral grains undergoing replacement by chlorite. The specimen displays a very fine to medium grained inequigranular seriate allotriomoprhic texture with scalloped, straight and curved grain boundaries.

95-34 (239.15 m): Granodiroite tending close to granite
Relatively fresh microcline forms anhedral grains interlocking with plagioclase and quartz. The mafic mineral is anhedral pleochroic brown to greenish brown amphibole. Trace to minor amounts of sphene is present as an accessory mineral. Plagioclase (An 32?) forms moderately saussuritized grains with anhedral form interlocking with quartz and microcline. The specimen displays a medium grained equigranular allotriomorphic texture with curved to straight grain boundaries.

95-34 (310.8 m): Altered kimberlite
Opaques are abundant and form anhedral to euhedral disseminated grains. The olivine is anhedral forming rounded to subrounded grains undergoing replacement by serpentine. Some relict olivine present in the cores of some grains. Very fine grained carbonate, chlorite and serpentine comprise the matrix of the sample. A very fine to medium grained inequigranular porphyritic seriate allotriomorphic texture describes the sample.

95-34 (352.05 m): Altered kimberlite
Opaques form a major component of the sample. The opaques are anhedral to euhedral in form and disseminated throughout the rock. Olivine forms anhedral rounded to subangular grains undergoing replacement by serpentine. Very fine grained serpentine, chlorite and carbonate compose the rock matrix. A very fine to medium grained inequigranular porphyritic seriate allotriomorphic texture is indicated.

Table 1.3. continued.

95-34 (358.6 m): Altered quartz syenite
Accessory sphene is present in trace to minor amounts as wedge-shaped grains. Pleochroic brown to green anhedral amphibole is the mafic mineral. Trace amounts of radiating sericite mica were observed in one corner of the thin section. Microcline is a major component. The microcline occurs as anhedral grains interlocking with quartz and plagioclase. Quartz is a minor component and occurs as anhedral grains interlocking with the feldspars. The plagioclase is moderately to strongly saussuritized in contrast to the relatively fresh microcline. The plagioclase forms anhedral grains interlocking with the quartz and feldspar. The rock displays a very fine to medium grained inequigranular seriate allotriomorphic texture.

95-34 (359.0 m): Pervasively altered kimberlite
Anhedral to euhedral opaques are a major component of the specimen. Olivine is present as anhedral rounded to subrounded grains completely replaced by serpentine and chlorite. The rock matrix is a very fine grained mixture of chlorite, serpentine and carbonate. The texture is very fine to medium grained inequigranular porphyritic seriate allotriomorphic.

KYLE LAKE No. 3 (Ashton Mining of Canada Incorporated diamond drill hole)

E395-1B (88.0 m): Pervasively altered kimberlite
Abundant opaques display anhedral to euhedral form and are distributed throughout the specimen. Brown mica, possibly former phlogopite, is present undergoing alteration to chlorite. The mica poikilitically encloses opaques in some of the larger grains. Former olivine occurs as anhedral round to subrounded grains which have been completely replaced by serpentine. One former olivine contains a poikilitic opaque grain. Xenocrystic, angular grains of plagioclase are present in trace to minor amounts. The rock matrix is composed of fine grained carbonate, serpentine and chlorite. The texture is very fine to medium grained inequigranular porphyritic seriate allotriomoprhic.

E395-1B (121.0 m): Pervasively altered kimberlite
Anhedral to euhedral opaques are disseminated throughout the sample. Olivine is a major component forming rounded to subangular anhedral grains which have been completely replaced by serpentine and chlorite. Trace amounts of brown mica in the matrix. The matrix is composed of a fine grained mixture of chlorite, carbonate, serpentine and brown mica. A former mafic to ultramafic xenolith has been completely replaced by chlorite and serpentine. A very fine to medium grained inequigranular porphyritic seriate allotriomorphic texture is displayed by the specimen.

E395-1B (128.0 m): Pervasively altered kimberlite
Opaques are abundant as anhedral to euhedral disseminated grains. Minor brown biotite occurs as anhedral interstitial grains which may poikilitically enclose opaque grains. Olivine is the dominant component as anhedral rounded to subrounded anhedral grains and has been completely replaced by serpentine and chlorite. Very fine to fine grained chlorite, brown mica, carbonate and serpentine comprise the rock matrix. The rock displays a very fine to medium grained inequigranular porphyritic seriate texture.

E395-1B (130.0 m): Pervasively altered kimberlite
Anhedral to subhedral disseminated opaques occur throughout the specimen. A few opaque grains appear to be tabular in outline. Brown biotite forms a major component in the matrix. Some of the larger mica grains may contain small opaque inclusions. Totally altered olivine forms anhedral rounded to subangular grains replaced by chlorite and serpentine. The matrix of the sample consists of fine grained serpentine, chlorite, carbonate and brown biotite. The matrix is slightly coarser grained than previous samples. The rock texture is fine to medium grained inequigranular porphyritic seriate allotriomorphic.

E395-1B (147.0 m): Altered tonalite
Quartz is anhedral in outline and interlocking with the feldspars. The quartz has a weak undulatory extinction. Trace amounts of wedge-shaped sphene is present. Microcline occurs in trace to minor quantities as anhedral grains interstitial to the quartz and plagioclase. Minor biotite occurs as tabular anhedral grains and is being replaced by chlorite. The dominant mineral is plagioclase (An 33-43) which forms anhedral grains interlocking with the quartz. The plagioclase is moderately saussuritized in contrast to the relatively fresh appearing microcline. Some of the saussuritization is patchy rather than evenly distributed throughout the grain. The rock texture is medium grained equigranular allotriomorphic with curved to straight grain boundaries.

E395-1B (153.0 m): Pervasively altered kimberlite
Biotite is a major mineral component of the matrix. The biotite is anhedral to euhedral and may poikilitically enclosed opaque grains. Anhedral to euhedral opaques are disseminated throughout the specimen. Chlorite and serpentine completely replace former olivine grains, which display an anhedral rounded to subrounded outline. Chlorite, serpentine, carbonate and brown mica form the fine grained matrix to the sample. The matrix of this specimen is slightly coarser grained than what has usually been observed. The sample displays a fine to medium grained inequigranular porphyritic seriate allotriomorphic texture.

E395-1B (172.0 m): Quartz monzonite
Microcline is fresh, anhedral and forms interlocking grains with quartz and plagioclase. Good quadrille twining is displayed by the microcline. The quartz is anhedral in outline and forms grains interlocking with the feldspars. Traces of granophyre were observed. The plagioclase is present as anhedral grains interlocking with the quartz and microcline. The plagioclase is moderately to strongly saussuritized in contrast to the fresh microcline. The specimen displays a medium grained equigranular allotriomorphic texture with curved to straight grain boundaries.

Table 1.3. continued.

KYLE LAKE No. 4

DR96-61 (221.0 m): Altered kimberlite
Anhedral olivine occurs as rounded to subrounded grains. The olivine is almost totally replaced by serpentine. Relicts of the former olivine occur in the cores of some altered grains. Very fine grained opaque material occurs along the edges of the altered olivine grains. Anhedral to euhedral opaques occur disseminated throughout the sample. Brown mica occurs in the matrix of the specimen and is a dominant mineral forming the matrix. The matrix consists of very fine grained serpentine, chlorite, carbonate and brown mica. The rock displays a fine to coarse grained inequigranular porphyritic seriate allotriomorphic texture.

DR96-61 (269.0 m): Altered kimberlite
Rounded to subrounded anhedral olivine is a dominant mineral component in the rock. The olivine is altering to serpentine and occurs in grains up to 5 mm. Trace to minor amounts of brown mica in the matrix. The matrix is composed of fine grained carbonate, chlorite (after mica?), and serpentine. A fine to coarse grained inequigranular porphyritic seriate allotriomorphic texture is displayed by the sample.

DR96-61 (305.0 m): Pervasively altered kimberlite
Anhedral round to subangular olivine has been totally replaced by serpentine and chlorite. Opaques are present as anhedral to euhedral disseminated grains. One large (4 mm) angular opaque grain. Chlorite, serpentine and carbonate compose a very fine to fine grained matrix. The sample is reddish brown in color indicating iron staining. The rock displays a fine to medium grained inequigranular porphyritic seriate allotriomorphic texture.

DR96-61 (320.0 m): Altered tonalite
Quartz displays anhedral outlines and forms interlocking grains with feldspar. Minor amounts of turbid, interstitial, anhedral microcline. Plagioclase (An 36-42) has anhedral outlines and forms interlocking grains with the quartz. The plagioclase is saussuritized and several grains display bent to offset albite twin planes. In contrast to most of the other granitic rock samples examined from this area, both of the feldspars appear to be undergoing alteration. The specimen displays a medium grained equigranular allotriomorphic texture with serrate, straight and curved grain boundaries.

DR96-61 (362.0 m): Pervasively altered kimberlite
Disseminated anhedral to euhedral opaques occur throughout the rock. Olivine forms a dominant mineral component and has been totally altered to serpentine and chlorite. The olivine is anhedral in outline forming rounded to subangular grains. Carbonate, serpentine and chlorite (after mica?) form a very fine to fine grained matrix. The sample displays a very fine to medium grained inequigranular porphyritic seriate allotriomorphic texture.

DR96-61 (365.0 m): Altered kimberlite
Euhedral to anhedral opaques form a major mineral component to the rock. Olivine displays rounded to subrounded anhedral grains undergoing replacement by chlorite, serpentine and an opaque mineral. The olivine grains are thickly mantled with the opaque mineral. The matrix of the sample is composed of fine grained carbonate, serpentine and chlorite (after mica?). A very fine to medium grained inequigranular porphyritic seriate texture is displayed by the sample.

DR96-61 (419.0 m): Leucocratic quartz monzonite
Relatively fresh microcline is a major component of this rock. The microcline forms anhedral grains interlocking with the plagioclase and quartz. Biotite as anhedral to subhedral brown tabular grains is the mafic mineral. The mica occurs only in minor amounts. The plagioclase (An 36-38) occurs as anhedral grains interlocking with the quartz and feldspar. Anhedral quartz forms interlocking grains with the feldspars. The specimen displays a medium grained equigranular allotrimorphic texture with curved to straight grain boundaries.

KYLE LAKE No. 5

96-62-13-1: Lamproite?
Opaques occur as anhedral to subhedral disseminated grains. Biotite is present as subhedral tabular reddish brown grains. The biotite may poikilitically enclose opaque grains. Clinopyroxene is present as relatively fresh subhedral to euhedral grains that display strong concentric zoning along the grain margins. Opaques may be enclosed in the zoned margins of the rim. Turbid, fine grained groundmass occurs as anhedral, interstitial, saussuritized(?) grains. One elliptical clot of gabbro may be either a former autolith or xenolith. Within this possible autolith or xenolith the plagioclase(?) is saussuritized and pyroxene euhedral. The rock texture is fine to medium grained inequigranular porphyritic seriate hypidiomorphic. The phenocrysts are pyroxene.

96-62-13-2: Lamproite?
The opaques display anhedral to euhedral outlines and are disseminated throughout. Subhedral to euhedral clinopyroxene displays well developed concentric zoning. Some poikilitic opaques in the zoned rim. The biotite displays subhedral form and may poikilitically enclose opaques. The biotite is reddish brown in color. A turbid, fine grained mineral occurs as the matrix and is anhedral, interstitial and saussuritized. A fine to medium grained inequigranular porphyritic seriate hypidomorphic texture is displayed by the specimen. The phenocrysts are pyroxene.

96-62-13-3: Lamproite?
Opaques are present as subhedral to euhedral grains disseminated throughout the specimen. Biotite displays subhedral form. The biotite is tabular, reddish brown in color and may poikilitically enclose opaques. Subhedral to euhedral zoned clinopyroxene is abundant. The zoned rims may poikilitically enclose opaques. Possible turbid plagioclase in the groundmass. A turbid fine grained mineral forms the matrix and is anhedral, interstitial and saussuritized. The specimen displays a fine to medium grained inequigranular porphyritic seriate hypidiomorphic texture. The phenocrysts are pyroxene.

Table 1.3. continued.

96-62-14-1: Lamproite?
The sample displays subhedral to euhedral opaques disseminated throughout. Reddish brown subhedral tabular biotite is common. The biotite may poikilitically enclose opaques. Subhedral to euhedral clinopyroxene is abundant and displays concentric zoning. Opaque grains may be poikilitically enclosed in the zoned rim. A turbid fine grained mineral makes up the matrix and occurs as interstitial, anhedral, altered grains. Local circular structures outlined by fine grain pyroxene and opaques. The specimen displays a fine to medium grained inequigranular porphyritic seriate hypidiomorphic texture. The phenocrysts are pyroxene.

96-62-14-2: Lamproite?
Subhedral to euhedral clinopyroxene is an abundant component of the rock. The pyroxene displays concentric zoning and poikilitic opaque grains may occur in the zoned rim. Subhedral reddish brown tabular biotite poikilitically encloses opaque grains. Anhedral, interstitial, altered grains of a fine grained mineral make up the matrix. Opaques form subhedral to euhedral grains disseminated throughout the sample. The sample displays a fine to medium grained inequigranular porphyritic seriate hypidiomorphic texture. The phenocrysts are pyroxene.

96-62-14-3: Lamproite?
The groundmass consists of a fine grained, interstitial, anhedral altered mineral. Opaques are present as subhedral to euhedral disseminated grains. Subhedral to euhedral clinopyroxene is abundant and displays concentric zoning. Poikilitic opaque grains may occur in the zoned rim. The biotite is subhedral in form, reddish brown in color and may enclose poikilitic opaque grains. The rock texture is fine to medium grained inequigranular porphyritic seriate hypidiomorphic. The phenocrysts are pyroxene.

96-62-15-1: Lamproite?
Opaques are subhedral to euhedral in form and disseminated throughout. Biotite is present as tabular, subhedral reddish brown grains that poikilitically encloses opaque grains. Clinopyroxene forms subhedral to euhedral grains with well developed concentric zoning. Opaque grains may be poikilitically enclosed in the rims and some pyroxene grains have an internal spotted appearance with an occasional opaque grain poikilitically enclosed. A turbid fine grained mineral comprises the matrix and is anhedral, interstitial, and altered. The specimen displays a fine to medium grained inequigranular porphyritic seriate hypidiomorphic texture. The phenocrysts are pyroxene.

96-62-15-2: Lamproite?
Subhedral to euhedral clinopyroxene is a dominant mineral The pyroxene displays well developed concentric zoning and opaque grains may be poikilitically enclosed in the zoned rim. Several pyroxene grains display a spotty texture and opaque grains may be poikilitically enclosed throughout. The matrix consists of a fine grained, anhedral, interstitial, altered mineral. The alteration may be saussuritization. Subhedral to euhedral opaques are disseminated throughout the sample. The biotite is subhedral in form, tabular, reddish brown in color and may poikilitically enclose opaque grains. The phenocrysts are pyroxene.

96-62-15-3: Lamproite?
Subhedral, tabular, reddish brown biotite poikilitically encloses opaque grains. The opaque minerals are subhedral to euhedral in form and disseminated throughout. Subhedral to euhedral clinopyroxene is abundant and displays concentric zoning. Opaques may be poikilitically enclosed in the zoned rim and on occasion an opaque grain may be enclosed in the central portion of the grain. The interstitial matrix mineral is fine grained, anhedral and altered. The alteration may be saussuritization. The texture of the specimen is fine to medium grained inequigranular porphyritic seriate hypidiomorphic. The phenocrysts are pyroxene.

Table 1.4. Geochemistry of sample from Kyle Lake No. 1 compared to average kimberlite defined by Mitchell (1986).

Element (%)	Mitchell	Kyle Lake
SiO_2	27.64	33.85
TiO_2	1.65	3.03
Al_2O_3	3.17	8.95
Cr_2O_3	0.14	
Fe_2O_3	5.40	8.89
FeO	2.75	3.10
MnO	0.13	0.16
MgO	24.31	22.97
CaO	14.13	6.48
Na_2O	0.23	< 0.1
K_2O	0.79	0.95
P_2O_5	0.55	0.13
CO_2	10.84	0.82
H_2O-	7.89	2.04
H_20+	0.24	10.02
S		0.08
Total		101.47

Element (ppm)	Mitchell	Kyle Lake
Li	29.00	46.00
Sc	14.00	18.21
V	100.00	80.39
Co	65.00	75.73
Ni	965.00	769.40
Cu	93.00	63.89
Cr	893.00	1277.00
Ag	0.13	3.00
Zn	69.00	41.14
Rb	73.00	43.26
Sr	851.00	194.41
Y	22.00	21.20
Zr	184.00	139.00
Nb	141.00	186.84
Cs	2.20	1.04
La	150.00	117.74
Ce	200.00	250.79
Pr	22.00	29.16
Nd	85.00	104.20
Sm	13.00	16.93
Eu	3.00	4.61
Gd	8.00	12.65
Tb	1.00	1.48
Dy	?	4.69
Ho	0.55	0.87
Er	1.45	1.89
Tm	0.23	0.22
Yb	1.20	0.99
Lu	0.16	0.17
Hf	5.60	5.04
Ta	11.00	11.02
Be	1.60	1.75
Mo	1.70	<6
W	?	<35
Th	17.00	15.79
U	3.10	3.33
Ba	1100.00	253.00
Ga	5.70	12.00

Notes: Averages from Mitchell (1986, Table 7.3, 63, Siberian kimberlites; Table 7.7 minor elements). Some minor element values may be unreliable.

Table 2.1. Summary of anomaly data, compiled from the records of Selco Mining Corporation Ltd.

Anomaly	Footage (m)	Gar	Chr	Il	Cpx	Ol	Phl	Perv	Paleo. Th.	OV	nT	Max. Dia.	Comment
425-1	109.40		X			X		X	0.00	47.85	100	linear	lamprophyre dike
425-2	90.83	X			X			X	0.00	31.40	600	300	mafic breccia
425-3	100.30		X	X	X			X	0.00	61.90	200	450	mafic breccia
425-4	121.60	X	X	X	X	X	X	X	0.00	47.85	1900	400	mafic breccia
425-5	103.30						X	X	0.00	54.85	300	400	mafic breccia
425-6	100.30	X		X	X		X	X	0.00	28.05	900	400	mafic breccia
425-7	90.55			X		X	X	X	0.00	46.35	900	400	mafic breccia
425-8	90.00	X	X	X	X	X		X	0.00	30.05	1000	600	mafic breccia
425-11	109.40			X		X	X	X	0.00	36.90	300	400	mafic intrusion
425-12	126.80				X	X	X	X	41.45+	85.35	100	700	unknown
425-13	92.95								21.0+	71.95	50	350	unknown
425-17	59.00				X	X			0.00	33.25	150	400	mafic breccia
425-18	66.00				X	X		X	0.00	40.00	125	400	mafic breccia
42J/5-1	104.00		X		X	X		X	0.00	64.20	600	400	mafic breccia
42J/5-2A	133.00								0.00	73.00	300	400	carbonatitic breccia
42J/5-2B	130.00		X			X			0.00	86.75	460	450	unclassified breccia
42J/5-4	107.00		X					X	0.00	62.00	460	350	mafic breccia
42J/5-5	145.00		X		X		X	X	0.00	79.00	400	500	mafic breccia
42J/6-1A	64.30		X		X		X	X	0.00	40.85	340	500	mafic breccia
42J/6-1-2	110.00				X		X		0.00	73.50	380	400	carbonatitic breccia
42J/6-2-1	141.50				X			X	0.00	101.00	700	350	mafic breccia
42J/6-2-2	137.00				X	X	X		0.00	77.00	120	500	mafic breccia
42J/6-2-3	65.00					X	X	X	0.00	43.50	180	150	mafic breccia
42J/6-3	140.00				X	X	X	X	0.00	103.80	260	400	carbonatitic breccia
42J/6-5	98.00							X	0.00	65.00	120	350	mafic breccia
42J/6-8-1	98.00	X			X	X	X	X	0.00	74.00	2000	700	mafic breccia
42J/6-9-1	137.00				X	X		X	0.00	100.50	240	500	mafic breccia
42J/6-9-2	100.00				X		X		0.00	43.00	400	300	mafic breccia
42J/6-11	103.00				X		X		0.00	73.00	280	350	unclassified breccia
42J/6-12-1	85.65	X	X			X	X	X	0.00	51.80	720	500	mafic breccia
42J/6-12-2	59.00		X		X		X		0.00	26.00	400	400	carbonatitic breccia
42J/6-13	74.05				X	X		X	0.00	49.80	440	400	mafic breccia
42J/6-14	111.50	X			X			X	0.00	64.00	300	350	mafic breccia
42J/6-16	128.00						X		0.00	60.00	440	300	mafic breccia
42J/6-17	110.00						X	X	0.00	50.00	360	300	mafic intrusion
42J/11-2	123.10								0.00	90.20	360	600	mafic breccia
42J/11-3	169.00								0.00	131.00	500	450	carbonatitic breccia
42J/11-4	164.50								0.00	164.5+	80	500	lost hole
42J/11-5	127.00				X	X		X	0.00	92.00	720	500	mafic breccia
42J/11-6	73.00		X		X	X	X	X	0.00	33.50	-560	300	mafic breccia
42J/11-7	136.00		X		X	X			0.00	96.00	340	350	mafic breccia
42J/11-8A	118.00								118.0+				
42J/11-8B	117.00		X	X	X	X		X	0.00	74.00	400	400	mafic breccia
42J/11-11A	127.00		X		X			X	0.00	79.85	120	500	mafic breccia
42J/11-11B	108.00		X		X	X		X	0.00	73.00	340	400	mafic breccia
42J/11-12													no information

Table 2.1. continued.

Anomaly	Footage (m)	Gar	Chr	Il	Cpx	Ol	Phl	Perv	Paleo. Th.	OV	nT	Max. Dia.	Comment
42J/12-2A-1													abandoned
42J/12-2A-2	153.20								0.00	126.50	500	350	mafic breccia
42J/12-2B-1	115.00					X	X		0.00	73.00	1200	500	mafic breccia
42J/12-2B-2	135.40				X	X	X		0.00	94.25	600	500	mafic breccia
42J/12-3-1	117.00	X	X		X	X		X	0.00	78.00	1300	450	mafic breccia
42J/12-3-2	113.00		X		X			X	0.00	79.00	880	400	mafic breccia
42I/4-2	76.50				X	X			0.00	33.50	800	300	mafic breccia
42I/4-200			X			X							
42I/5-6	145.00		X	X	X	X	X		53.50	61.50	400	500	mafic intrusion
42I/5-8	133.50		X			X	X		8.20	86.50	125	300	carbonatitic breccia
42I/5-9	76.65	X	X		X				10.45	61.55	400	550	mafic breccia
42I/5-10	157.00	X	X	X	X			X	0.00	83.00	125	550	mafic breccia
42I/5-12	145.00		X		X	X	X		0.00	34.00	1100	300	mafic breccia
42I/5-107	163.00				X				31.00	99.00	500	700	mafic breccia
42I/5-108	110.00				X	X			0.00	65.00	700	600	mafic breccia
42I/5-113	140.00				X	X			22.00	76.00	-640	400	mafic breccia
42I/5-114	118.50				X	X	X		26.00	39.70	1240	500	mafic breccia
42I/5-115	152.00					X			5.00	100.00	240	350	mafic breccia
42I/6-100	170.00								51.40	76.00	-580	450	mafic breccia
42I/8-1	75.30					X			0.00	37.25	2100	700	mafic breccia

NOTES: 42I/5-10 has been tested by 4 drill holes, only two of which are available to the author. Data not reported for 42J/11-2 and 42J/11-3. Abbreviations: Chr, chromite; Gar, garnet; Il, ilmenite; Max. Dia., maximum diameter (m) of the magnetic anomaly (commonly elliptical in form); nT, magnetic expression over estimated regional background in gammas; Ol, olivine; OV, overburden thickness; Paleo.Th., thickness of the Paleozoic section encountered in drill hole tests; Perv, perovskite; Phl, phologopite.

Table 2.2. Brief thin section descriptions of a select group of samples provided to the Ontario Geological Survey from 1979–1983 by Selco Mining Corporation Limited as part of the province-wide carbonatite study. Samples and thin sections now archived at the Royal Ontario Museum, Toronto, Ontario.

425-12-2: Mafic to ultramafic rock; possibly alnoite
Opaques are present as anhedral very fine grained disseminated grains. Possible pyroxene is present as very fine grains of a brown to greenish brown color altering to chlorite. Olivine forms anhedral inequigranular seriate grains that are not too highly altered. Minor to traces of phlogopite are present. The matrix consists of very fine to fine grained chlorite, carbonate and serpentine. The rock displays a fine grained inequigranular seriate allotriomorphic texture.

425-12-3-471.0: Altered ultramafic rock
Opaques occur as anhedral disseminated grains. The pyroxene displays an anhedral form and is altered to chlorite along the edges of the grain. The matrix is composed of very fine grained chlorite, carbonate and serpentine with possibly traces of needle-like amphibole. The rock displays a very fine to fine grained inequigranular porphyritic seriate hypidiomorphic texture.

42J/6-?: Altered ultramafic rock
Opaques are present as disseminated inequigranular seriate grains. The larger opaque grains are fractured. Olivine, altered to chlorite and serpentine, occurs as rounded anhedral grains. Mica, possibly former phlogopite, occurs as anhedral to subhedral grains. One of the former grains may have had bent (001) cleavage. Possible pyroxene occurs as anhedral to subhedral grains altered to chlorite. The matrix consists of a very fine grained mixture of carbonate, chlorite and serpentine. The rock displays a fine to medium grained inequigranular porphyritic seriate hypidiomorphic texture. The rock has been fractured and contains serpentine and chlorite filled fractures.

42J/6-1-2-86.5: Altered ultramafic rock
Opaques are present as anhedral disseminated grains. Minor quantities of mica occur as subhedral grains, The mica is greatly subordinate to the pyroxene. The pyroxene is anhedral and altered to chlorite and carbonate. The altered pyroxene grains are often enclosed in a ring of opaques. The rock matrix consists of a very fine grained mixture of carbonate, sericite and serpentine. The texture is fine to medium grained inequigranular porphyritic seriate hypidiomorphic.

42J/6-2-1: Brecciated ultramafic rock
Possible traces of perovskite. Pyroxene occurs as anhedral to subhedral grains altered to chlorite and carbonate. The rock matrix is a fine grained mixture of carbonate, serpentine, chlorite and lath-like pyroxene. The texture is very fine grained inequigranular porphyritic seriate hypidiomorphic. The rock appears to be a breccia with rounded clasts set in a matrix of similar composition.

42J/6-2-1- 130.0: Altered ultramafic rock
Opaques occur as anhedral disseminated grains. Pyroxene is present as euhedral to subhedral altered grains in a random orientation. The rock matrix is very fine grained and consists of a mixture of chlorite, carbonate and serpentine. There is a possible weak pelletal texture but it may be better described as consisting of rounded autoliths. The matrix contains more carbonate than the autoliths. The rock texture is very fine to fine grained inequigranular porphyritic seriate hypidiomorphic with autobrecciation.

42J/6-2-3: Ultramafic rock; possibly alnoite
Olivine of anhedral to subhedral form is present undergoing alteration to chlorite and serpentine along edges and fractures. Chlorite is present in the rock as clots of radiating fan-like aggregates. The matrix is composed of very fine grained carbonate, chlorite, serpentine and lath-like pyroxene. The text is fine grained inequigranular porphyritic seriate hypidomorphic.

42J/6-6-2: Ultramafic breccia
Paleozoic lithic rock fragments are present. Phlogopite occurs as anhedral to subhedral grains with bent (001) cleavages. Opaques are present as anhedral disseminated grains. Minor pyroxene is altered to chlorite and anhedral to subhedral in form. Traces of xenocrystic quartz. Minor olivine is present as altered rounded anhedral grains. The matrix consists of chlorite, serpentine and carbonate. The rock texture is fine to medium grained inequigranular porphyritic seriate hypidiomorphic.

42J/6-9-1-112.0: Altered ultramafic breccia
Minor phlogopite occurs as tabular grains with bent (001) cleavage. Angular lithic fragments of biotitite and Paleozoic limestone. Traces of xenocrystic quartz and plagioclase. Pyroxene occurs as anhedral to subhedral grains replaced by carbonate and chlorite. The matrix consists of a mixture of serpentine, chlorite and carbonate. A very fine to fine grained inequigranular porphyritic seriate hypidomorphic texture is present.

42J/6-9-2-75.0: Altered ultramafic rock
Lithic fragments compose a large portion of the sample. The fragments are off possible diabase, anothosite(?) and Paleozoic limestone. Phlogopite is present as tabular rounded subhedral grains. Pyroxene occurs as anhedral to subhedral grains altering to carbonate and chlorite. The mica and pyroxene occur in roughly equal amounts. Opaques are present as anhedral disseminated grains. The rock matrix is composed of very fine grained chlorite, serpentine and carbonate. A very fine to fine grained inequigranular porphyritic seriate hypidiomorphic texture is displayed by the rock.

42J/6-12-209.0: Altered ultramafic rock with garnet amphibolite xenolith
Opaques are present as anhedral disseminated grains. Phenocrystic pyroxene is anhedral to euhderal in outline, often displays twin planes, and is undergoing alteration to chlorite and carbonate. Traces to minor biotite occur as subhedral grains with bent (001) cleavage. The matrix is composed of a very fine grained mixture of carbonate, serpentine and chlorite. The specimen contains an xenolith of altered garnet amphibolite. The garnet is anhedral and brown in color. The pyroxene is anhedral to subhedral in form and interstitial to the plagioclase which is totally saussuritized. The texture is fine to medium grained porphyritic seriate hypidiomorphic.

Table 2.2. continued.

42J/6-12-1-135.0: Phlogopite, pyroxene ultramafic rock; alnoite
Opaques are present as anhedral to subhedral disseminated grains. Phlogopite occurs in minor amounts as subhedral to euhedral grains with bent (001) cleavage. Pyroxene is enclosed within one mica grain. The pyroxene occurs as euhedral to subhedral grains with some chlorite alteration. The matrix is a very fine grained mixture of chlorite, carbonate and serpentine. The rock texture is very fine to medium grained inequigranular porphyritic seriate hypidiomorphic.

42J/6-12-2-39.0: Cataclastic diorite
Opaques occur as anhedral disseminated grains. Minor biotite is present as tabular grains displaying bent (001) cleavage. Pyroxene occurs as angular fragments, brown in color. Some twining of the pyroxene grains is noted and one grain contained poikilitic inclusions of possibly apatite. Plagioclase occurs as angular fragments undergoing weak saussuritization. Carbonate is present as anhedral grains forming a mosaic of interlocking grains and as more or less isolated large grains. The rock texture is fine to medium grained inequigranular seriate cataclastic.

42J/6-14-1: Brecciated ultramafic rock
Pyroxene is present as anhedral to euhedral grains altered to chlorite and carbonate. Relict compositional zoning occurs on the larger grains. The matrix is a mixture of fine grained carbonate, chlorite, serpentine and traces of mica. The rock texture is fine to medium grained inequigranular porphyritic seriate hypidomorphic. There is a suggestion of a brecciated texture.

42J/6-16-36.0: Altered brecciated ultramafic rock
Trace amounts of xenocrystic microcline, plagioclase and quartz. Phlogopite is present as anhedral to subhedral grains with some grains displaying bent (001) cleavage. Pyroxene occurs as subhedral to euhedral grains replaced by carbonate and chlorite. The matrix consists of very fine grained carbonate, serpentine and chlorite. The rock texture is very fine to fine grained inequigranular porphyritic seriate hypidiomorphic with good autobrecciation.

42J/6-17-93.0: Altered ultramafic rock
Opaques are present as anhedral disseminated grains. Phlogopite is present as phenocrysts displaying bent (001) cleavages. Traces of xenocrystic quartz. The matrix is a mixture of carbonate, chlorite and serpentine. The rock displays a very fine to fine grained inequigranular porphyritic seriate hypidiomorphic texture.

42J/11-?: Altered ultramafic rock
Paleozoic lithic fragments are present. Olivine is present but completely altered to chlorite and serpentine. The rounded olivine grains are commonly mantled with chilled magmatic material developing an excellent pelletal texture. The matrix consists of very fine grained carbonate, chlorite and serpentine. The rock texture is very fine to medium grained seriate, hypidiomorphic with a very well developed pelletal texture. The pellets are commonly cored with altered olivine mantled with fine grained chilled magmatic rock.

42J/ll-3-1-96.5: Altered ultramafic rock
Minor microporphyritic pyroxene displaying a subhedral outline replaced by chlorite and carbonate. Good pelletal texture and some of the pellets my be cored by former olivine grains that have been replaced by serpentine and carbonate. Other pellets are probably cored by pyroxene replaced by chlorite and carbonate. The rock displays a very fine to fine grained inequigranular porphyritic seriate texture with very good pelletal structures.

42J/11-5-1- 92.0: Altered ultramafic rock; possibly alnoite
Opaques are present as anhedral disseminated grains. Olivine occurs as rounded anhedral grains altered to chlorite, serpentine and carbonate. The rock matrix is a very fine grained mixture of chlorite, carbonate and serpentine. The texture is fine grained inequigranular, porphyritic seriate hypidiomorphic.

42J/11-6-1-48.5: Ultramafic rock
Possibly a trace of perovskite. Rock has a pelletal texture. Minor amounts of opaques and mica in the pellets. Olivine in the pellets is anhedral to euhedral and altered to chlorite and carbonate. The matrix consists of very fine grained carbonate, serpentine and chlorite. The matrix to the pellets consist of similar material as the pellets altered to chlorite, carbonate, and serpentine. Some of the carbonate in the matrix is coarse grained. The rock is fine grained inequigranular porphyritic seriate hypidiomorphic with a good pelletal texture.

42J/11-7-1: Altered ultramafic rock
Minor pyroxene occurs as phenocrysts. The pyroxene is anhedral to subhedral in outline and is being replaced by chlorite and carbonate. Traces of relict pyroxene. Elliptical clots of alteration minerals sometimes represent the former pyroxene. The matrix consists of very fine grained chlorite, serpentine and carbonate. A very fine to fine grained inequigranular porphyritic seriate hypidiomorphic texture is indicated.

42J/11-7-1-96.5: Altered ultramafic rock
The rock is a very fine grained mixture of chlorite, serpentine and carbonate displaying a pelletal texture. Some pellets may be cored with former olivine that has now been replaced by serpentine and coarser grained carbonate. Most pellets are cored with chlorite and serpentine, probably after pyroxene. The texture is very fine to fine grained inequigranular seriate allotriomorphic with good pelletal structure.

42J/11-8B-1-77.4: Altered ultramafic rock
Opaques occur in trace amounts as disseminated grains. The matrix is very fine to fine grained and made of a mixture of chlorite, carbonate and serpentine. Traces of pyroxene are altered to carbonate and chlorite. The rock is very fine grained equigranular allotriomorphic with well developed pelletal texture.

Table 2.2. continued.

42J/11-11B1-95.5: Ultramafic rock; possibly alnoite
Olivine is present as anhedral to subhedral grains altered to chlorite and carbonate. The matrix consists of very fine grained chlorite, serpentine and carbonate. The rock texture is fine grained inequigranular porphyritic seriate hypidiomorphic. The rock may contain rounded autoliths set in a matrix of similar composition.

42J/12-2B-2-101.0: Pervasively altered mafic rock
There are traces of anhedral disseminated opaques. Biotite is uncommonly present forming radiating brown crystals. The matrix is composed of very fine grained chlorite and carbonate. The rock texture is very fine to fine grained equigranular hypidiomorphic. Relict texture suggests former diabase or fine grained gabbro.

42J/12-3-1-78.5: Altered ultramafic rock
Pyroxene occurs as subhedral to euhedral crystals replaced by chlorite and carbonate. Opaques are present as anhedral disseminated grains. Rock matrix is composed of a mixture of carbonate, chlorite and carbonate. A very fine to fine grained inequigranular porphyritic seriate hypidiomorphic texture is present.

42J/12-3-1-92.1: Altered ultramafic rock
Minor amounts of lithic fragments, possibly a very fine grained mafic rock. Autoliths consist of abundant pyroxene of euhedral to subhedral form undergoing replacement by chlorite and carbonate. The matrix to the pyroxene grains consists of very fine grained carbonate, chlorite and serpentine. The matrix to the autoliths consists of the same mineralogy as the clasts but richer in carbonate. The rock texture is very fine to fine grained inequigranular porphyritic seriate hypidiomorphic. The autoliths are somewhat angular in shape.

42J/12-3-2-105.0: Altered brecciated ultramafic rock
Pyroxene occurs as anhedral to euhedral grains altering to chlorite and carbonate. Traces of relict pyroxene present. Trace amounts of mica and opaques are present. The matrix consists of a mixture of carbonate, chlorite and serpentine. The rock displays a very fine to fine grained inequigranular porphyritic seriate hypidiomorphic texture with good autobrecciation.

42I/4-1-184: Garnet-bearing quartz diorite
Very minor fractured anhedral garnet. Fractures in garnet contain very fine grained sericite. Minor amounts of anhedral interstitial quartz. Biotite is present as tabular brown subhedral grains. Plagioclase (An 43-52) occurs as anhedral to subhedral grains displaying a weakly developed saussuritization. The rock displays a medium grained equigranular to inequigranular seriate hypidiomorphic texture with curved grain boundaries.

42I/4-2: Mafic to ultramafic rock; possibly aillikite or alnoite
Opaques occur as anhedral inequigranular disseminated grains. Possible fine grained pyroxene appears fresh and displays anhedral to euhedral outline. The grains are randomly oriented. Possible traces of anhedral very fine grained phlogopite. The matrix consists of very fine grained serpentine, chlorite and carbonate. The texture is fine grained, inequigranular porphyritic seriate hypidiomorphic.

42I/4-2-65.5: Altered ultramafic rock
Carbonate is present as anhedral grains in a zone across the sample. Epidote(?) is present in association with the carbonate in a zone across the rock. Opaques are present as anhedral to subhedral grains disseminated grains. The matrix consists of a very fine grained mixture of chlorite, serpentine and carbonate. The rock text is very fine to fine grained inequigranular seriate allotriomorphic. The rock originally may have been microporphyritic.

42I/4-200-98.0: Brecciated ultramafic rock
Pyroxene is present as subhedral to anhedral grains replaced by chlorite and carbonate set in a matrix of very fine grained carbonate, serpentine and chlorite. This material forms pellets set in a very fine grained matrix of carbonate, chlorite and serpentine. The pellet matrix contains more carbonate than the pellets themselves. The rock texture is fine grained inequigranular porphyritic seriate hypidiomorphic. The pelletal texture is very well developed.

42I/5-6-140: Altered mafic to ultramafic rock
Opaques occur as disseminated subhedral grains. Chlorite is present throughout as very fine grained grains and as radiating fan-like tufts. Possible pyroxene occurs as microphenocrysts altered to chlorite. Irregular shaped grains of sericite after some unknown mineral. The groundmass consists of very fine grained carbonate, serpentine and chlorite. The rock displays a fine to very fine grained equigranular to inequigranular porphyritic seriate hypidiomorphic texture.

42I/5-8-124.5: Altered ultramafic rock; possibly lherzolite(?)
Opaques occur as anhedral to subhedral disseminated grains. Olivine is present as rounded grains replaced by opaques and serpentine. Possible pyroxene is present but altered to chlorite, serpentine and possibly traces of carbonate. The matrix consists of very fine grained chlorite, serpentine and carbonate. Traces of garnet. The rock displays a fine to coarse grained inequigranular seriate allotriomorphic texture.

42I/5-12-74.0: Altered ultramafic rock
Autoliths contain abundant pyroxene of euhedral outline being replaced by carbonate and chlorite. The matrix to the pyroxene phenocrysts consists of very fine grained chlorite, carbonate and serpentine. The matrix to the autoliths consists of the same mineralogy only richer in carbonate. The texture is very fine to fine grained inequigranular, porphyritic seriate hypidiomorphic. The auotliths are angular to subangular in outline.

Table 2.2. continued.

42I/5-100-147.5: Brecciated ultramafic rock
Trace to minor amounts of xenocrystic plagioclase. Pyroxene occurs as anhedral grains that rarely may appear fresh. Pyroxene is common as serpentinized laths in the matrix of what appears to be autoliths grading to pellets. Traces of possibly olivine. The matrix of the autoliths consists of very fine grained chlorite, carbonate and chlorite. The matrix to the autoliths grading to pellets is very fine grained carbonate, chlorite and serpentine. Carbonate more common in matrix than in autoliths, The rock texture is fine grained inequigranular porphyritic seriate hypidiomorphic. The rock displays a brecciated texture tending to pelletic.

42I/5-107-164.5: Altered gabbro
Plagioclase forms a major component and consists of relict lath-like grains that locally display relict albite twining. Pyroxene is present as anhedral interstitial grains that uncommonly may contain some relicts of unaltered material. Opaques are present as anhedral disseminated grains between the plagioclase and pyroxene grains. There is very fine grained chlorite and carbonate in the groundmass between the plagioclase and pyroxene grains. The rock displays a fine to medium grained inequigranular seriate hypidiomorphic texture.

42I/5-108-110.0: Altered ultramafic rock
Opaques occur as anhedral disseminated grains. Pyroxene is present as anhedral to subhedral grains with some chlorite alteration along the edges. The matrix is very fine grained and consists of chlorite, carbonate and serpentine. The texture is very fine to fine grained inequigranular porphyritic seriate hypidiomorphic.

42I/5-113-128.0: Brecciated ultramafic rock
Altered olivine(?) occurs as anhedral to subhedral gains replaced by opaques, carbonate and chlorite(?). Pyroxene is present as rounded and zoned grains with minor chloritic alteration. The matrix consists of very fine grained chlorite, serpentine, mica and traces of carbonate. The sample appears brecciated and the matrix to the fragments consists of the same mineralogy. The matrix contains chlorite, serpentine and carbonate. The carbonate content of the matrix to the fragments is higher than the content within the fragments. The rock texture is fine grained inequigranular porphyritic seriate hypidiomorphic. The rock is a breccia consisting of rounded to subrounded fragments in a matrix of similar material.

42I/5-115-128.5: Brecciated ultramafic rock
Pyroxene is present as euhedral tabular lath-like grains altered to chlorite and carbonate. Some grains may have displayed compositional zonation. The matrix consists of very fine grained mixture of chlorite, carbonate and serpentine. The rock is a breccia consisting of a rounded to subrounded fragments in a matrix of similar mineralogy. The matrix to the fragments contains more carbonate than the fragments. Minor opaques in the matrix and only traces in the fragments. The rock is fine grained inequigranular porphyritic seriate hypidiomorphic. The rock is a breccia consisting of rounded to subrounded fragments in a matrix of similar material.

42I/6-100-147.5: Altered ultramafic rock
The sample contains angular xenocrystic quartz and plagioclase feldspar in between pellets. One of the pellets contains an angular grain of xenocrystic plagiolcase. Pyroxene occurs as tabular euhedral to subhedral crystals in random orientation undergoing alteration to chlorite, carbonate and serpentine. The matrix is very fine grained and consists of carbonate, chlorite and serpentine with traces of mica. The rock texture is very fine to fine grained inequigranular porphyritic seriate hypidiomorphic with well developed pelletal texture.

42I/8-1-208: Altered ultramafic rock
Trace to minor amounts of anhedral disseminated opaques. Phlogopite is present as anhedral to euhedral chloritized inequigranular-seriate tabular grains. The phlogopite grains often form the core to pellets that give the rock a well developed pelletal texture. The groundmass consists of a very fine grained mixture of chlorite, carbonate and serpentine. The rock displays a fine grained mineralogy and a well developed pelletal texture.

Table 2.3. Brief thin section descriptions of samples presented to the Ontario Geological Survey in 1990 by Esso Minerals Canada Limited. Samples and thin sections archived at the Royal Ontario Museum, Toronto, Ontario.

425-1: Altered ultramafic rock
Opaques are present as anhedral disseminated grains. Carbonate that is slightly coarser grained than matrix carbonate may replace former mica and/or pyroxene. The rock matrix is composed of very fine grained carbonate, mica and serpentine. The rock displays a very fine to fine grained inequigranular allotriomorphic texture.

425-2: Altered ultramafic rock
Subangular to subrounded very fine grained lithic clasts of a possible mafic rock are present. A xenocrystic grain of sphene was noted. Opaques occur as anhedral disseminated grains. Possible pyroxene of euhedral to subhedral form has been replaced by carbonate and chlorite and occurs in pelletal structures. Possible altered pyroxene may also be in the groundmass. Mica replaced by chlorite is present in the pelletal structures. The groundmass consists of very fine grained carbonate, chlorite and serpentine. The specimen displays a very fine to fine grained inequigranular porphyritic seriate hypidiomorphic texture with moderately developed pelletal structures.

452-3: Altered mafic breccia
Lithic clasts of subrounded to subangular outline are present. The clasts are very fine grained and consist of mafic and carbonate rock. Opaques are anhedral in shape and disseminated throughout. Trace amounts of angular xenocrystic plagioclase and clinopyroxene. Possible former pyroxene and mica in the groundmass has been replaced with carbonate and chlorite. Very fine grained chlorite, serpentine and carbonate comprise the matrix. The rock displays a very fine to fine grained inequigranular seriate allotriomorphic texture.

425-3-A: Pervasively altered ultramafic breccia
Trace of angular xenocrystic quartz and plagioclase. Several possible lithic fragments replaced by chlorite and carbonate. Trace amounts of brown tabular biotite in matrix. Possible former pyroxene replaced by carbonate and chlorite. The matrix is composed of a mixture of chlorite, carbonate and serpentine. Matrix is rich in carbonate. Very fine to medium grained inequigranular seriate allotriomorphic with possible breccia structure.

425-3-B: Pervasively altered ultramafic breccia
Angular lithic fragments may compose up to 20 % of the rock. The fragments may be an altered mafic rock such as diabase. Traces of angular xenocrystic quartz, plagioclase, microcline and amphibole. Opaques occur as anhedral disseminated grains. Traces of brown biotite in matrix. The matrix consists of a mixture of carbonate, serpentine and chlorite. Matrix is rich in carbonate.

425-4: Altered ultramafic rock
Xenocrystic angular plagioclase is present in trace amounts. Subrounded to rounded lithic clasts displaying very fine grained textures, possibly representing a rock of mafic composition were noted. Minor biotite-phlogopite is present as phenocrysts rimed with chlorite alteration. Some mica grains display bent (001) cleavage. The matrix consists of very fine grained carbonate, chlorite and serpentine. Some of the carbonate occurs in somewhat coarser grained clots. The matrix is carbonate-rich. A very fine to fine grained inequigranular seriate allotriomorphic texture is displayed by the rock. A moderately developed pelletal structure is present.

425-4-A (1): Pervasively altered ultramafic breccia
Opaques are present as anhedral disseminated grains. Biotite-phlogopite occurs as light brown subhedral grains commonly displaying bent (001) cleavage. Traces of altered xenocrystic plagioclase. Rock matrix consists of a mixture of chlorite, carbonate and serpentine. Pellet structures often core with mica and possibly altered pyroxene. The rock displays a very fine to fine grained inequigranular seriate allotriomorphic texture with good pelletal structure. One subrounded autolith is present.

425-4-A (2): Pervasively altered ultramafic breccia
Minor quantities of angular, altered lithic fragments that may have originally been mafic in composition. Biotite-phlogopite occurs as subhedral grains which commonly occurs in the cores of pellet structures. Minor amounts of disseminated anhedral opaques. Trace amounts of xenocrystic plagioclase and microcline. The matrix consists of carbonate, chlorite and serpentine. Matrix is rich in carbonate

425-4-B: Pervasively altered ultramafic breccia
Traces of xenocrystic plagioclase are present. Minor amounts of altered angular lithic debris. Biotite-phlogopite is common and anhedral to subhedral in outline. The mica is undergoing chlorite replacement along its edges and commonly cores pelletal structures. Traces of anhedral disseminated opaques. The rock matrix consists of a mixture of chlorite, carbonate and serpentine. A very fine to medium grained inequigranular seriate allotriomorphic texture is present with a well developed pelletal structure.

425-4B-B: Pervasively altered ultramafic breccia
Trace to minor amounts of angular xenocrystic plagioclase and microcline. Opaques occur as anhedral disseminated grains in trace amounts. Angular lithic clasts are very minor and altered to carbonate. The rock matrix is a mixture of carbonate, serpentine and chlorite. The matrix is carbonate-rich. The rock texture is very fine to fine grained inequigranular seriate allotriomorphic with good pelletal structure.

425-5: Altered ultramafic breccia
Rounded to subrounded lithic clasts of very fine grained carbonate and mafic rock are present. Trace amounts of xenocrystic plagioclase were noted. Pelletal structures consist of mica and pyroxene microphenocrysts altered to chlorite and carbonate. Mica in the matrix to the pelletal structures is altered to carbonate plus chlorite. Trace to minor amounts of opaques are present as anhedral disseminated grains. One rounded grain of unknown material is replaced by iron oxides(?). Very fine grained carbonate, chlorite and serpentine compose the carbonate-rich matrix. The rock has a very fine to fine grained inequigranular seriate allotriomorphic texture with a moderately developed pelletal structure.

Table 2.3. continued.

425-5-A: Altered mafic breccia
Large angular lithic clast, possible an altered mafic rock. Opaques occur as anhedral disseminated grains. Traces of mica. The matrix is a mixture of very fine grained carbonate, serpentine, chlorite and iron oxide. Very fine grained inequigranular seriate allotriomorphic texture is present with a well developed pelletal structure.

425-5-B: Altered ultramafic breccia
Altered angular lithic clasts make up 20 % of the rock and may represent an altered mafic rock. Angular grains of xenocrystic plagioclase, amphibole and quartz(?) are present. Opaques are present in trace amounts as anhedral disseminated grains. Traces of mica. The matrix is a mixture of carbonate, serpentine and chlorite. The matrix is carbonate-rich. The texture is very fine to fine grained inequigranular seriate allotriomorphic with good pelletal structure.

425-6: Altered ultramafic rock
Opaques are present as anhedral disseminated grains. Mica is common in matrix and autoliths and has been replaced by chlorite. Possible some euhedral pyroxene present which has been replaced to carbonate and chlorite. A grain of xenocrystic microcline was observed. The matrix consists of a very fine grained mixture of chlorite, carbonate and serpentine. The specimen displays a very fine to fine grained inequigranular seriate hypidiomorphic texture. Autoliths are present.

425-6-A: Pervasively altered ultramafic rock
Trace amounts of anhedral disseminated opaques. The rock may have contained a large volume of mica (estimated at 20 %) which has been replaced by chlorite. The rock may have originally contained pyroxene as suggested by the outlines of some former euhderal grains. The possible pyroxene has been replaced with carbonate and chlorite. The matrix is a mixture of chlorite, serpentine and carbonate. Weak suggestion the development of autoliths. The texture is very fine to fine grained inequigranular seriate allotriomorphic.

425-6-B: Pervasively altered ultramafic rock
Mica occurs a microphenocrysts and totally altered to chlorite. Possible pyroxene is also present altered to chlorite and carbonate. The matrix consists of a mixture of carbonate, chlorite and possibly serpentine. The rock texture is best observed in the autoliths. The rock texture is very fine to fine grained inequigranular porphyritic seriate with a good development of autoliths.

425-7: Altered ultramafic rock
Very fine grained subrounded to subangular lithic clasts of carbonate present. Rock has both pelletal structures and autolith development. Trace amounts of xenocrystic plagioclase and microcline. Mica in lath-like grains has been replaced by chlorite. Pyroxene is subordinate to possible mica and has been replaced by carbonate and chlorite. Some of the pelletal structures are cored with altered mica. A very fine grain matrix comprised of carbonate, chlorite and serpentine is present. The matrix is rich in carbonate. The sample displays a very fine to fine grained inequigranular porphyritic seriate hypidiomorphic texture with pelletal structures and autobrecciation.

425-8 (1): Altered brecciated ultramafic rock
Small clasts of subrounded to subangular carbonate(?). Trace amounts of xenocrystic material consisting of pyroxene, plagioclase and microcline. Xenocrystic grains occur within the autoliths. Replaced mica and pyroxene occur in autoliths. The mica and pyroxene have been replaced by carbonate and chlorite. The rock matrix consists of a very fine grained carbonate, chlorite and serpentine with patches of coarser grained carbonate. The matrix is carbonate-rich. Pelletal texture not well developed and internal structures better described as autoliths. The sample texture is very fine to fine grained inequigranular porphyritic seriate hypidiomorphic with autolithic structures.

425-8 (2): Altered brecciated ultramafic rock
Small angular xenocrysts of plagioclase pyroxene and microcline are present in trace amounts. Xenocrystic grains may be found in autoliths. Angular lithic clasts replaced(?) by carbonate. Clast looks like it originally was porphyritc with mica phenocrysts. Mica and pyroxene microphenocrysts are present in the autoliths and have been replaced by carbonate and chlorite. Mica is more common that the possible pyroxene. The carbonate-rich matrix also contains chlorite and serpentine. Some of the matrix carbonate is coarser grained than most of the matrix material. The specimen displays a very fine to fine grained inequigranular porphyritic seriate hypidiomorphic texture with autolith structures.

425-11: Altered ultramafic rock
Subangular to subrounded lithic clasts of very fine grained mafic rock are present. Trace amounts of xenocrystic plagioclase and microcline were observed. Opaques occur in trace amounts. Within the matrix there is the possibility of former mica replaced by chlorite. The matrix mineralogy consists of very fine grained carbonate, chlorite and serpentine. The matrix is carbonate-rich. A very fine to fine grained inequigranular seriate allotriomorphic texture is displayed by the sample.

425-12: Altered olivine-bearing diabase or gabbro
Disseminated anhedral opaques. Plagioclase is saussuritized and turbid. Interlocking pyroxene is altered splintery amphibole (actinolite) with scattered small relicts of the original mineral. Trace amounts of possible serpentinized olivine. Some grains contain small relicts in their cores of the possible original mineral. The texture is fine to medium grained equigranular allotriomorphic

425-17 (1): Altered ultramafic breccia
Rounded to subrounded lithic clasts of very fine grained carbonate and porphyritic (altered pyroxene(?)) mafic rock are present. Xenocrystic plagioclase and microcline is present in trace to small amounts. An autolith displays a microporphyritic texture with tiny euhedral mica grains altered to chlorite and larger euhedral to subhedral pyroxene grains altered to carbonate and chlorite. The rock matrix consists of very fine grained carbonate, serpentine and chlorite and contains altered crystals and crystal fragments of pyroxene. The matrix is carbonate-rich. A very fine to fine grained inequigranular porphyritic seriate hypidiomorphic texture with autolith structures is displayed.

Table 2.3. continued.

425-17 (2): Altered ultramafic breccia
Subrounded to subangular autolith structures are present in the rock. The mica occurs as very small microporphyritic phenocrysts altered to chlorite. Larger pyroxene phenocrysts are euhedral to subhedral in form and are replaced with carbonate and chlorite. Trace to minor amounts of anhedral disseminated opaques and xenocrystic plagioclase, microcline and iron oxide. Some poorly developed pelletal structures, some cored with altered pyroxene. The rock displays a very fine to fine grained inequigranular porphyritic seriate hypidiomorphic texture with autolith and pelletal structures.

425-18: Altered ultramafic breccia
Angular lithic fragments of very fine grained carbonate are present. Rock has an autolithic structure. Mica within the autoliths is very fine grained microporphyritic and altered to chlorite. The associated pyroxene is euhedral to subhedral in form and altered to chlorite and carbonate. Xenocrystic plagioclase is present and possibly some pyroxene altering to a fibrous amphibole. The carbonate-rich rock matrix is a mixture of carbonate, serpentine and chlorite. A very fine to fine grained inequigranular porphryritc seriate hypidomorphic texture with autolith structures is displayed by the sample.

42J/5-1 (1): Altered ultramafic breccia
Angular lithic clasts of very fine grained carbonate are present. Opaques are present as anhedral disseminated grains. Pyroxene(?) is anhedral to euhedral and replaced with carbonate and chlorite. Xenocrysts of clinopyroxene and plagioclase are present. The rock matrix consists of carbonate, chlorite and serpentine and is rich in carbonate. Radiating amphibole(?) occurs in association with carbonate in one corner of the thin section. A very fine to fine grained inequigranular porphyritic seriate texture is displayed in thin section.

42J/5-1 (2): Altered ultramafic breccia
Subrounded to rounded clasts of very fine grained carbonate are present. Pyroxene replaced by carbonate and chlorite displaying euhedral to subhedral outlines is present. Trace amounts of opaques are disseminated throughout the section. Matrix of the sample consists of very fine grained carbonate, chlorite and serpentine. The matrix is carbonate-rich. One area of section rich in carbonate contains radiating splays of amphibole (?). A very fine to fine grained inequigranular porphyritic seriate hypidomorphic texture is indicated.

42J/5-2B: Carbonate to siliceous carbonate (probably Paleozoic limestone xenolith)
Very fine grained carbonate and possibly chert with one xenocrystic grain of plagioclase. The texture is very fine grained equigranular allotriomorphic.

42J/5-4-1: Altered ultramafic rock
Sample contains subrounded to subangular lithic clasts, possibly a very very fine grained chert and limestone. Opaques are present in trace amounts as anhedral disseminated grains. Possibly former pyroxene is present, some grains display euhedral outlines. The possible pyroxene is replaced by carbonate and chlorite. Pellets forming the pelletal structure within the rock display a microporphyritic texture with the altered pyroxene. The rock matrix consists of very fine grained carbonate, chlorite and serpentine. A very fine to fine grained inequigranular porphyritic seriate hypidiomorphic text is displayed by the rock with a moderate to well developed pelletal structure.

42J/5-5: Altered ultramafic rock
Possible subhedral to euhedral pyroxene is totally altered to carbonate and chlorite. Chlorite is concentrated towards the rims of the crystal and carbonate is concentrated in the core. Opaques are present as very fine grain anhedral disseminated grains. The matrix consists of very fine grained carbonate, serpentine and chlorite. The matrix is carbonate-rich. One autolith is recognizable and the structure is pelletal. The rock text is very fine to fine grained inequigranular porphyritic seriate hypidiomorphic with pelletal structure.

42J/6-1A: Altered ultramafic breccia
Possible trace of olivine. One pellet structure may be cored with a serpentinized olivine grain. Xenocrystic pyroxene, plagioclase, microcline is present and chlorite alteration may occur on the xenocrystic pyroxene. The sample contains small subangular to subrounded xenoliths of altered gabbro. Mica in the matrix is altered to chlorite. Pyroxene in the matrix is altered to carbonate plus chlorite. A carbonate-rich matrix consists of carbonate, chlorite and serpentine. The rock has a very fine to fine grained inequigranular porphyritic seriate hypidiomorphic texture.

42J/6-2-1 (1): Altered ultramafic rock
Microporphyritic mica altered to chlorite occurs in the autoliths. Larger pyroxene grains occur with the mica and have been replaced by chlorite and carbonate. The mica and pyroxene display euhedral to subhedral outlines. The sample contains anhedral disseminated opaques. Xenocrystic pyroxene and plagioclase is present. The rock matrix is composed of very fine grained carbonate, chlorite and serpentine. The matrix is carbonate-rich. A very fine to fine grained inequigranular porphyritic seriate hypidiomorphic texture with moderately developed autolith structures is displayed.

42J/6-2-1 (2): Altered ultramafic breccia
Trace amounts of anhedral disseminated opaques. Euhedral microporphyritic mica replaced by chlorite occurs within the autoliths in association with larger subhedral to euhedral grains of pyroxene replaced by chlorite and carbonate. Anhedral to subhedral pyroxene is present in the matrix and replaced by chlorite and serpentine. The matrix consists of very fine grained carbonate, chlorite and serpentine. A small xenolith of garnet-bearing altered mafic rock is present at the edge of the thin section. The garnet is the only unaltered mineralogy. The texture is very fine to fine grained inequigranular porphyritic seriate hypidiomorphic with moderately developed autoclast structures.

42J/6-2-1 (3): Altered ultramafic breccia
The autoliths contain very fine microporphyritic mica altered to chlorite and larger microporphyritic pyroxene replaced by chlorite and carbonate. The mica and pyroxene have euhedral to subhedral outlines. Trace amounts of opaques, possibly perovskite. Pyroxene within the matrix is altered to carbonate plus chlorite. The matrix is carbonate-rich and composed of very fine grained carbonate, chlorite and serpentine. A very fine to fine grained inequigranular porphyritic seriate texture with autolith structures is present.

Table 2.3. continued.

42J/6-3-1 (1): Altered ultramafic rock
Opaques are present as anhedral to subhedral disseminated grains. Mica altered to chlorite and carbonate forms phenocrysts, some of which display bent (001) cleavages. Possible traces to minor olivine altered to serpentine. Minor pyroxene replaced by chlorite and carbonate is present displaying a subhedral to euhedral outline. The rock matrix consists of very fine grained carbonate, chlorite and serpentine. One small angular xenolith of very fine grained carbonate rock. The rock texture is very fine to fine grained inequigranular porphyritic seriate hypidiomorphic.

42J/6-3-1 (2): Altered ultramafic rock
Opaques are present as anhedral to rounded disseminated grains. Mica occurs as anhedral to subhedral phenocrysts altering to chlorite and carbonate. Some mica grains display a bent (001) cleavage. The pyroxene displays an anhedral to euhedral outline and is replaced by chlorite and carbonate. Possible traces of serpentinized olivine. The possible olivine is rounded in outline and some iron oxide may be part of the alteration assemblage. The carbonate-rich matrix is composed of carbonate, chlorite d serpentine. A small xenolith of very fine carbonate is present and the specimen is traversed by a carbonate-filled fracture. The rock displays a very fine to fine grained inequigranular porphyritic seriate hypidiomorphic texture.

42J/6-5-1: Altered ultramafic rock
Mica, possible biotite-phologpite, forms anhedral to subhedral grains in the matrix. The mica is being replaced by chlorite and carbonate. Xenocrystic quartz, microcline and plagioclase is noted. Very small altered gabbro xenolith present. Pyroxene is subhedral to euhedral in form and has underwent alteration to chlorite and carbonate. The altered pyroxene may form the nucleus to some pelletal structures. Possible traces of anhedral serpentinized olivine. The matrix is carbonate-rich and composed of carbonate, chlorite and serpentine. A very fine to fine grained inequigranular porphyritic seriate hypidiomorphic texture with some pelletal structures is indicated.

42J/6-8-1: Altered ultramafic rock
Within the pelletal structures the small mica phenocrysts are totally replaced by chlorite. Possible pyroxene is present in the pellet structures as euhedral to subhedral grains in random orientation, replaced by carbonate and chlorite. One small very fine grained limestone(?) fragment. The matrix consists of very fine grained chlorite, serpentine, iron oxide and carbonate. Matrix is carbonate-rich. The pelletal structures are well developed and appear to be outlined by possibly iron oxide which makes them somewhat opaque. A text of very fine to fine grain inequigranular porphyritic seriate hypidiomorphic is displayed by the rock which has a pelletal structure.

42J/6-9-1: Altered ultramafic rock
Traces of xenocrystic plagioclase and microcline. Subrounded to rounded xenoliths of somewhat coarser carbonate are present. Small rounded mafic xenoliths occur and one small altered gabbro clast is present at the edge of the thin section. One very small autolith displaying a microporphyrtic texture of replaced mica and pyroxene was noted. Opaques are anhedral and occur in trace amounts throughout the thin section. Pyroxene is present as anhedral to euhedral grains replaced by chlorite and carbonate. The carbonate-rich matrix consists of carbonate, chlorite and serpentine. The texture is very fine to fine grained inequigranular seriate hypidiomorphic.

42J/6-9-2: Altered ultramafic breccia
Lithic clasts of subrounded to subangular form are a dominant rock component. The clasts are fine to medium grained and may represent a former mafic rock (gabbro?). Biotite-phlogopite occurs within the pelletal structures and is altered to carbonate and chlorite. The shape is subhedral to rounded anhedral. Pyroxene also occurs in the pelletal structures and is replaced by carbonate and chlorite, dominantly carbonate. Trace of disseminated opaques and xenocrystic plagioclase. The matrix is a very fine grained chlorite, serpentine and carbonate. The matrix is carbonate-rich. The rock displays a very fine to fine grained inequigranular porphyritic seriate hypidiomorphic texture with pelletal structures.

42J/6-11-1: Altered ultramafic rock
Mica is present but replaced by carbonate and chlorite. Bent (001) cleavages are recognizable. Opaques occur as anhedral to subhedral disseminated grains. There is an unknown mineral replaced by a brown to reddish brown material and outlined by black opaques. A very fine grain matrix consisting of carbonate, serpentine and chlorite is present which is carbonate-rich. A very fine to fine grained inequigranular porphyritic seriate allotriomorphic texture is present in the rock.

42J/6-12-1: Altered breccia
Minor amounts of angular lithic fragments that may represent a fine grained mafic rock. Angular xenocrystic plagioclase and pyroxene are abundant. Disseminated anhedral opaques are present. The matrix consists of very fine grained carbonate, chlorite and serpentine. The matrix is rich in carbonate. The rock displays a very fine to fine grained inequigranular seriate cataclastic texture.

42J/6-12-2-2: Mica-pyroxene porphyry
Opaques occur as anhedral to subhedral disseminated grains. Biotite-phlogopite occurs as microphenocrysts and displays minor alteration to chlorite. Pyroxene (diopside?) displays subhedral to euhedral outline and traces of chlorite alteration. Trace amounts of xenocrystic plagioclase and one biotite crystal enclosed a pyroxene grain. The matrix consists of very fine grained carbonate, chlorite and serpentine. The matrix carbonate locally displays coarser grained patches. The texture is fine to medium grained inequigranular porphyritic seriate hypidiomorphic.

42J/6-13: Altered ultramafic rock
Small grains of possible pyroxene replaced by carbonate, chlorite and iron oxides. The matrix is composed of very fine grained carbonate, chlorite and serpentine. The specimen is traversed by a braided system of coarser grained carbonate. A very fine to fine grained inequigranular porphryritic seriate hypidiomorphic.

42J/6-14-1: Altered mafic breccia
Autoliths are present containing microphenocrysts of mica and pyroxene altered to chlorite and carbonate. The microphenocrysts are anhedral to subhedral in form. Opaques occur as anhedral disseminated grains. A very fine grained matrix consists of chlorite, carbonate and serpentine. The text is very fine to fine grained inequigranular seriate allotriomorphic.

Table 2.3. continued.

42J/6-16-1: Gabbro
Pyroxene forms a major component to the rock and interlocks with plagioclase. The pyroxene is brown to greenish-brown in color and anhedral in form. The other major component is plagioclase (An_{44-53}) interlocking with the pyroxene. There is weak chloritization and saussuritization. The texture is fine to medium grained equigranular allotriomorphic.

42J/6-17-1: Altered ultramafic rock
Anhedral to subhedral opaques occur disseminated throughout the specimen. Biotite-phlogopite is present as anhedral to subhedral grains and totally altered to chlorite and carbonate. Individual crystals are up to 1 cm and some crystals display bent (001) cleavage. Traces of xenocrystic plagioclase. The rock matrix consists of very fine grained carbonate, chlorite and serpentine. The matrix is rich in carbonate. A very fine to coarse grained inequigranular porphyritic seriate allotriomorphic texture is indicated.

42J/11-2: Altered ultramafic rock
Anhedral disseminated opaques are present throughout the sample. Possible pyroxene replaced by carbonate and iron oxide. Several of the possible pyroxene may actually be altered olivine. The carbonate-rich matrix is comprised of carbonate, chlorite and serpentine. Traces of xenocrystic plagioclase. The texture is very fine to fine grained inequigranular seriate allotriomorphic.

42J/11-5: Altered ultramafic rock
Opaques occur as anhedral disseminated grains throughout the sample. Microphenocrysts of mica and pyroxene are altered to chlorite and carbonate. Some pelletal structures appear to be cored by larger pyroxene(?) grains. The rock matrix consists of very fine grained chlorite, carbonate and serpentine. The matrix is carbonate-rich. The rock displays a very fine to fine grained inequigranular seriate allotriomorphic texture with pelletal structures.

42J/11-6: Pervasively altered ultramafic breccia
Possible traces of perovskite. Most of rock is an angular xenolith of feldspar porphyry. Some of the feldspar crystals display Carlsbad(?) twining and the xenolith displays weak to minor carbonate and chlorite alteration. One small rounded very fine grain xenolith of carbonate. Possible former mica and pyroxene have been replaced by carbonate and chlorite. Trace amounts of xenocrystic plagioclase. The matrix is a very fine grained mixture of carbonate, chlorite and serpentine. A very fine to fine grained inequigranular seriate allotriomorphic texture is displayed.

42J/11-7: Pervasively altered ultramafic rock
Anhedral to subhedral pyroxene is present undergoing complete replacement by carbonate and chlorite. The suspected pyroxene often cores pelletal structures and is nearly totally replaced by carbonate. Opaques are present in trace amounts. A very fine grained matrix consisting of carbonate chlorite and serpentine makes up most of the sample. The matrix is carbonate-rich. The round pellet structures are often enveloped in very fine grained material. A very fine to fine grained inequigranular porphyritic seriate allotriomorphic texture is indicated with well developed pelletal structures.

42J/11-8-B: Altered ultramafic rock
Minor number of angular to subangular lithic clasts of clinopyroxene. One clinopyroxene fragment may core a pelletal structure. Former pyroxene of anhedral to subhedral form is replaced by carbonate and chlorite and may core some of the pelletal structures. The matrix is composed of very fine grained carbonate, chlorite and serpentine and is carbonate-rich. The pelletal structures are outlined by a very fine grained chlorite or iron oxide. The specimen displays a very fine to fine grained inequigranular seriate allotriomorphic texture with pelletal structures.

42J/11-11: Altered ultramafic rock
Former subhedral to euhedral pyroxene has been replaced by chlorite, carbonate and iron oxide. Some grains core pelletal structures. Minor anhedral disseminated opaques are present. Very fine grained carbonate, chlorite, iron oxide and serpentine compose the matrix. The rock texture is very fine to fine grained inequigranular porphyritic seriate hypidiomorphic with a well developed pelletal structure.

42J/11-11B-1: Altered ultramafic breccia
Lithic clasts make up a major portion of the rock. The clasts are angular, very fine grained and may have been derived from a mafic rock and Paleozoic carbonate rocks. Pyroxene was likely present and has been replaced by chlorite and carbonate. Some replaced pyroxene grains form the cores to pelletal structures. One autolith displays a very fine grained inequigranular porphyritic seriate texture with microphenocrysts of totally altered mica and pyroxene. The carbonate-rich matrix consists of fine grained carbonate, chlorite and serpentine. The sample displays a very fine to fine grained inequigranular seriate allotriomorphic texture with pelletal structures.

42J/12-2A (1): Pervasively altered (weathered?) ultramafic rock
Abundant opaques occur as anhedral disseminated grains. Mica phenocrysts have been replaced with chlorite. Very tiny clear grains may be apatite (parallel extinction). A round bled of coarser grained carbonate is enveloped in iron oxides. The rock matrix is a mixture of fine grained carbonate, chlorite and iron oxides. The specimen is heavily stained brown to reddish brown. The texture is very fine to fine grained inequigranular porphyritic allotriomorphic.

42J/12-2A (2): Pervasively altered (weathered?) ultramafic rock
Abundant anhedral to subhedral disseminated opaques. Mica phenocrysts are replaced with carbonate and chlorite. Apatite(?) is present as very tiny elongate grains. The rock matrix consists of very fine grained carbonate, chlorite and iron oxide. The specimen is heavily stained reddish brown. The texture is very fine to fine grained inequigranular porphyritic seriate hypidiomorphic.

42J/12-2-B1: Altered ultramafic rock
Opaques are present as anhedral disseminated grains. Very minor biotite-phlogopite is present as subhedral microphenocrysts. One rounded grain of possible serpentine replaced olivine. Possible minor amounts of subhedral to anhedral pyroxene replaced by carbonate and chlorite may be present. The specimen matrix is a very fine grained mixture of serpentine, carbonate and chlorite.

Table 2.3. continued.

42J/12-2B-2: Altered ultramafic rock
Opaques are present as very fine disseminated grains. Trace amounts of biotite-phlogopite and carbonate-chlorite replaced pyroxene may be present in the specimen. Very fine grained carbonate and chlorite make up the matrix. The matrix is carbonate-rich. The rock texture is very fine to fine grained equigranular allotriomorphic.

42J/12-3: Altered ultramafic breccia
Subangular to subrounded xenoliths of very fine grained carbonate and mafic rock are a major component of the sample. The autoliths have mica microphenocrysts of euhedral to subhedral form replaced by chlorite. Somewhat larger associated pyroxene microphenocrysts are replaced by chlorite and carbonate. The matrix contains angular xenocrysts of plagioclase and pyroxene. The carbonate-rich matrix forms a very fine grained mixture of carbonate, chlorite and serpentine. A very fine to fine grained inequigranular porphryritic seriate hypidiomorphic texture with a well developed autolith structure is displayed by the sample.

42J/12-3-2: Altered ultramafic rock
The specimen displays both pelletal and autolith structures. Euhedral microphenocrysts of mica have been replaced by chlorite. Somewhat large pyroxene microphenocryts with subhedral to euhedral outlines have been replaced by carbonate and chlorite. The carbonate-rich matrix consists of very fine grained carbonate, chlorite and serpentine. A trace of anhedral opaque minerals occurs in the sample. The rock texture is very fine to fine grained inequigranular porphryritic seriate hypidiomorphic with pelletal and autolith structures.

Table 2.4. Laboratory number versus field number for analyzed samples.

81RPS-0189	42I/4-1-184.0 ft
81RPS-0190	42I/4-2-50.5 ft
81RPS-0191	42I/4-2-65.5 ft
81RPS-0192	42I/4-2-71.0 ft
81RPS-0193	42I/5-6-137.3 ft
81RPS-0194	42I/5-6-140.0 ft
81RPS-0195	42I/5-8-105.0 ft
81RPS-0196	42I/5-8-113.0 ft
81RPS-0197	42I/5-8-124.5 ft
81RPS-0198	42I/5-9-251.0 ft
81RPS-0199	42I/5-10-140.5 ft
81RPS-0200	42I/5-10-153.0 ft
81RPS-0201	42I/5-12-64.0 ft
81RPS-0202	42I/5-12-74.0 ft
81RPS-0203	42I/8-1-208.0 ft
81RPS-0204	42I/8-1-221.0 ft
81RPS-0205	42I/8-1-244.0 ft
81RPS-0206	42J/5-2B1
81RPS-0207	42J/5-5-11
81RPS-0208	42J/6-12-1-209.0 ft
81RPS-0209	42J/6-12-1-235.0 ft
81RPS-0210	42J/6-1
81RPS-0211	42J/6-1-2-82.0 m
81RPS-0212	42J/6-1-2-86.5 m
81RPS-0213	42J/6-1-2-97.0 m
81RPS-0214	42J/6-1-2-108.5 m
81RPS-0215	42J/6-2-1-110.0 m
81RPS-0216	42J/6-2-1-123.5 m
81RPS-0217	42J/6-2-1-132.5 m
81RPS-0218	42J/6-2-1-139.0 m
81RPS-0219	42J/6-3-1-109.0 m
81RPS-0220	42J/6-3-1-120.5 m
81RPS-0221	42J/6-3-1-128.5 m
81RPS-0222	42J/6-3-1-138.0 m
81RPS-0223	42J/6-5-1-78.0 m
81RPS-0224	42J/6-5-1-90.0 m
81RPS-0225	42J/6-5-1-94.0 m
81RPS-0226	42J/6-12-1-188.0 ft
81RPS-0227	42J/11-345.0 ft(11A or 2)
81RPS-0228	42J/12-2B1
81RPS-0229	42J/12-2B2
81RPS-0230	42J/12-2B2-101.0 m
81RPS-0231	42J/12-2B2-107.0 m
81RPS-0232	42J/12-3-1-92.0 m
81RPS-0233	425-3-5-391.0 ft
81RPS-0234	425-3-6-328.0 ft
81RPS-0235	425-4-315.0 ft
81RPS-0236	425-4-12-362.0 ft
81RPS-0237	425-4-13-394.0 ft
81RPS-0238	425-5-4-335.0 ft
81RPS-0239	425-5-5-264.0 ft
81RPS-0240	425-6-10-266.0 ft
81RPS-0241	425-6-9-244.0 ft
81RPS-0242	425-6-12-1-218.0 ft
81RPS-0243	425-6-13-322.0 ft
81RPS-0244	425-7-1
81RPS-0245	425-7-1-209.0 ft
81RPS-0246	425-11-1-133.0 ft
81RPS-0247	425-11-9-307.0 ft
81RPS-0248	425-12-2-455.5 ft
81RPS-0249	425-12-3-1
81RPS-0250	425-12-3-477.0 ft
81RPS-0251	425-18-1
81RPS-0252	425-18-1-5
81RPS-0253	
81RPS-0254	
82RPS-0001	42J/6-2-1
82RPS-0002	42J/6-9-1
82RPS-0004	42J/11-5-1
82RPS-0005	42J/11-7-1
82RPS-0006	42J/11-8B1
82RPS-0141	42J/6-9-2-76.0 m
82RPS-0142	42J/6-16-36.0 m
82RPS-0143	42J/6-17-93.0 m
82RPS-0144	42J/12-3-1-78.5 m
82RPS-0145	42J/12-3-2-105.0 m
82RPS-0146	kimberlite-Upper Canada
82RPS-0147	42J/6-2-2-41.0 m
82RPS-0148	42J/6-12-2-39.0 m
82RPS-0149	42J/6-14-1-107.5 m
82RPS-0150	42J/11-6-1-48.5 m
82RPS-0151	42J/11-11B-1-95.5 m
82RPS-0152	42I/4-200-98.0 m
82RPS-0153	42I/5-107-164.5 m
82RPS-0154	42I/5-108-110.0 m
82RPS-0155	42I/5-113-128.0 m
82RPS-0156	42I/5-115-128.5 m
82RPS-0157	42I/6-100-147.5 m

NOTE: Sample 82RPS-0146 is fresh kimberlite from the Upper Canada Mine, Kirkland Lake, Ontario (see Sage 1996 for additional information on this kimberlite occurrence).

Table 2.5. Analytical methods.

Element	Method	Det. Limit
SiO2	XRF	2.00%
Al2O3	XRF	0.40%
Fe2O3	XRF	0.20%
FeO	VOL	0.20%
MgO	XRF	0.30%
CaO	XRF	0.15%
Na2O	XRF	0.50%
K2O	XRF	0.10%
TiO2	XRF	0.16%
P2O5	XRF	0.15%
MnO	XRF	0.02%
CO2	IRC	0.01%
H2O+	IRC	0.10%
H2O-	IRC	0.05%
Ba	A	10 ppm
Co	A	5 ppm
Cr	A	10 ppm
Cu	A	5 ppm
Li	AE	3 ppm
Ni	A	5 ppm
Pb	A	10 ppm
Zn	A	10 ppm
Be	ICP-OES	1 ppm
Mo	ICP-OES	10 ppm
Sc	ICP-OES	2 ppm
V	ICP-OES	5.0 ppm
La	ICP-MS	0.2 ppm
Ce	ICP-MS	0.2 ppm
Pr	ICP-MS	0.2 ppm
Nd	ICP-MS	0.05 ppm
Sm	ICP-MS	0.05 ppm
Eu	ICP-MS	0.2 ppm
Tb	ICP-MS	0.3 ppm
Gd	ICP-MS	0.3 ppm
Dy	ICP-MS	0.3 ppm
Ho	ICP-MS	0.2 ppm
Er	ICP-MS	0.05 ppm
Tm	ICP-MS	0.01 ppm
Yb	ICP-MS	0.05 ppm
Lu	ICP-MS	0.01 ppm
Th	ICP-MS	0.03 ppm
Nb	ICP-MS	0.5 ppm
Zr	ICP-MS	1.0 ppm
Y	ICP-MS	0.5 ppm
Sr	ICP-MS	2.0 ppm
Rb	ICP-MS	1.0 ppm
Cs	ICP-MS	0.1 ppm
Hf	ICP-MS	0.01 ppm
Ta	ICP-MS	0.05 ppm
U	ICP-MS	0.03 ppm
LOI	GRAV	

Notes:

1) Additionally, five samples were analyzed for fluorine using the colorimetric technique: 82RPS-0001, 1010 ppm; 82RPS-0002, 7100 ppm; 82RPS-0004, 1240; 82RPS-0005, 880 ppm; 82RPS-0006, 1070 ppm

2) Abbreviations used: A, atomic absorption; AE, atomic flame emission; Det. Limit, detection limit; GRAV, gravimetric; ICP-MS, inductively coupled plasma - mass spectroscopy; ICP-OES, inductively coupled plasma - optical emission spectroscopy; IRC, infrared combustion; LOI, loss on ignition; VOL, volumetric; Zr, for sample 81RPS-0219 by XRF.

Table 2.6. Major and minor elements within mafic to ultramafic diatremes from the James Bay Lowlands.

	81RPS-0189	81RPS-0190	81RPS-0191	81RPS-0192	81RPS-0193	81RPS-0194	81RPS-0195	81RPS-196	81RPS-0197	81RPS-0198	81RPS-0199	81RPS-0200	81RPS-0201
SiO2				35.80	35.50								39.80
Al2O3				12.20	12.20								8.31
Fe2O3				4.16	5.51								4.76
FeO				7.33	6.38								4.32
MgO				15.60	13.60								18.90
CaO				13.00	11.10								6.09
Na2O				2.59	1.48								0.27
K2O				1.60	0.45								1.05
TiO2				2.94	2.15								1.45
P2O5				0.98	2.29								0.43
MnO				0.21	0.23								0.16
CO2				0.28	0.27								0.76
S				0.03	0.02								0.07
H2O +				1.30	6.00								5.11
H2O -				0.54	1.44								6.81
LOI				1.50	7.50								13.10
SP-GR													
Total				98.60	98.60								98.30
Ba	500.00	470.00	610.00	2630.00	860.00	280.00	400.00	750.00	510.00	310.00	790.00	580.00	720.00
Co	27.00	59.00	46.00	60.00	40.00	44.00	390.00	49.00	18.00	39.00	52.00	34.00	53.00
Cr	274.00	725.00	580.00	710.00	150.00	152.00	575.00	339.00	490.00	185.00	490.00	264.00	313.00
Cu	52.00	86.00	34.00	106.00	43.00	45.00	134.00	84.00	11.00	42.00	46.00	35.00	60.00
Li	16.00	45.00	20.00	12.00	61.00	38.00	68.00	26.00	32.00	32.00	17.00	22.00	26.00
Ni	104.00	335.00	218.00	345.00	104.00	100.00	740.00	193.00	350.00	205.00	400.00	225.00	485.00
Pb	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	12.00	-10.00	-10.00	-10.00
Zn	86.00	160.00	110.00	108.00	130.00	142.00	40.00	34.00	36.00	86.00	64.00	50.00	92.00
Be	2.00	1.00	1.00	-1.00	1.00	1.00	3.00	3.00	5.00	2.00	1.00	-1.00	2.00
Mo	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00
Sc	8.00	30.00	7.00	13.00	8.00	8.00	12.00	13.00	21.00	10.00	9.00	7.00	8.00
V	120.00	175.00	240.00	310.00	220.00	225.00	175.00	150.00	195.00	155.00	225.00	130.00	190.00
La	17.14	95.97	124.02	199.72	209.71	198.89	87.46	73.52	123.86	62.85	49.59	38.61	70.57
Ce	38.73	162.58	203.75	300.98	364.05	361.08	179.27	164.07	223.49	117.76	93.92	76.74	123.51
Pr	5.15	18.15	22.43	31.43	45.45	45.64	22.92	21.26	28.59	13.56	11.07	9.09	13.65
Nd	21.12	63.19	75.73	97.76	155.37	156.08	87.04	83.31	106.23	47.19	39.37	33.07	46.20
Sm	4.46	10.53	12.05	13.28	21.96	22.95	14.87	15.11	16.21	7.94	6.61	5.72	7.20
Eu	1.21	3.05	3.44	3.74	6.36	6.06	4.12	4.48	4.51	2.06	1.95	1.51	2.05
Tb	0.51	1.14	1.34	1.30	2.12	2.25	1.39	1.79	1.59	0.86	0.69	0.61	0.71
Gd	3.95	8.69	10.04	9.91	16.59	17.81	11.58	12.74	12.34	6.26	5.18	4.52	5.54
Dy	2.42	5.01	6.04	5.30	8.97	9.98	5.58	8.37	6.94	4.15	2.96	2.73	3.26
Ho	0.42	0.85	1.03	0.93	1.60	1.77	0.93	1.47	1.23	0.77	0.51	0.49	0.58
Er	0.99	1.89	2.35	1.96	3.72	4.21	1.92	3.41	2.92	1.92	1.18	1.17	1.34
Tm	0.14	0.24	0.30	0.27	0.50	0.55	0.24	0.45	0.38	0.29	0.16	0.17	0.18
Yb	0.85	1.36	1.78	1.53	2.94	3.26	1.37	2.44	2.20	1.77	0.91	0.96	1.08
Lu	0.13	0.20	0.25	0.23	0.43	0.47	0.19	0.35	0.31	0.27	0.13	0.14	0.16
Th	1.04	12.35	18.64	33.78	12.36	13.51	24.84	18.14	18.51	12.33	6.60	7.60	11.26
Nb	4.77	91.36	132.56	156.94	141.22	157.25	188.24	115.18	162.08	77.58	70.72	75.88	73.28
Zr	40.46	164.39	176.47	209.57	176.48	196.00	435.16	310.87	247.57	133.40	117.12	118.89	105.50
Y	13.30	24.04	28.76	25.78	44.89	50.60	30.32	47.24	36.94	25.36	14.31	15.07	15.82
Sr	493.90	535.30	314.40	1190.90	2002.80	1892.90	614.30	1219.40	576.70	373.40	844.30	644.80	230.90
Rb	58.34	6.60	22.29	63.61	35.31	60.23	39.86	73.74	80.49	100.79	16.25	38.21	56.73
Cs	1.08	0.29	0.56	1.17	0.87	1.30	1.65	2.57	4.50	4.12	0.53	1.34	1.31
Hf	1.26	5.10	4.77	5.79	4.94	5.37	7.74	5.97	5.82	4.16	3.83	3.55	3.07
Ta	0.24	4.90	7.02	6.90	7.70	8.46	11.05	6.14	6.18	4.24	3.96	3.39	3.79
U	0.44	2.29	3.87	5.62	2.66	2.94	3.46	2.67	1.99	3.85	1.72	1.54	2.49

Table 2.6. continued.

	81RPS-0202	81RPS-0203	81RPS-0204	81RPS-0205	81RPS-0206	81RPS-0207	81RPS-0208	81RPS-0209	81RPS-0210	81RPS-0211	81RPS-0212	81RPS-0213	81RPS-0214
SiO2				35.30						21.90	23.60		20.60
Al2O3				7.04						5.50	5.65		5.48
Fe2O3				6.82						7.06	6.64		4.89
FeO				4.66						1.77	2.66		2.95
MgO				18.40						6.85	7.69		4.90
CaO				10.50						27.10	25.50		28.10
Na2O				0.26						0.51	0.53		0.31
K2O				0.43						1.17	1.00		1.06
TiO2				2.48						1.12	1.24		1.14
P2O5				0.64						2.09	2.14		2.67
MnO				0.15						0.50	0.56		0.40
CO2				2.89						16.20	14.40		17.90
S				0.10						0.02	0.25		0.32
H2O +				6.29						2.76	2.90		2.55
H2O -				3.11						0.88	0.98		2.01
LOI				11.70						21.30	19.10		22.90
SP-GR										2.66	2.66		
Total				99.00						96.40	96.70		95.30
Ba	880.00	330.00	250.00	480.00	320.00	580.00	580.00	1620.00	1000.00	5250.00	4250.00	2450.00	2470.00
Co	52.00	52.00	49.00	60.00	16.00	50.00	38.00	48.00	35.00	19.00	28.00	22.00	19.00
Cr	268.00	283.00	396.00	490.00	19.00	340.00	269.00	292.00	384.00	47.00	51.00	47.00	41.00
Cu	75.00	67.00	60.00	70.00	12.00	76.00	108.00	134.00	50.00	51.00	64.00	51.00	50.00
Li	24.00	26.00	28.00	31.00	99.00	18.00	35.00	18.00	26.00	36.00	36.00	38.00	64.00
Ni	460.00	345.00	355.00	385.00	10.00	245.00	97.00	116.00	375.00	15.00	17.00	18.00	15.00
Pb	15.00	-10.00	-10.00	-10.00	-10.00	24.00	-10.00	-10.00	-10.00	27.00	29.00	30.00	12.00
Zn	92.00	90.00	94.00	109.00	230.00	104.00	170.00	98.00	80.00	240.00	230.00	220.00	300.00
Be	2.00	-1.00	-1.00	-1.00	19.00	2.00	3.00	1.00	-1.00	6.00	5.00	6.00	7.00
Mo	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00
Sc	9.00	9.00	9.00	9.00	30.00	10.00	20.00	25.00	12.00	11.00	11.00	12.00	13.00
V	195.00	215.00	220.00	255.00	170.00	290.00	290.00	315.00	110.00	235.00	260.00	265.00	220.00
La	87.29	52.91	54.18	61.17	789.44	146.30	92.75	103.80	82.55	510.42	518.15	509.44	523.50
Ce	152.48	103.98	103.44	123.70	664.97	248.58	179.16	194.64	134.24	811.75	821.79	807.67	826.08
Pr	16.91	12.61	12.49	15.28	374.46	28.32	22.33	23.32	17.56	111.07	113.06	111.70	113.57
Nd	56.89	47.61	46.95	57.12	1372.38	97.14	83.43	83.05	60.52	371.43	376.18	374.04	377.77
Sm	8.60	8.84	8.60	10.47	177.10	14.75	14.51	13.25	9.03	50.11	50.96	50.27	50.96
Eu	2.42	2.56	251.00	3.03	46.60	3.96	4.01	3.72	2.28	13.01	13.76	12.79	12.83
Tb	0.88	0.94	0.86	1.05	15.21	1.42	1.45	1.25	0.75	4.24	4.34	4.17	4.24
Gd	6.56	7.25	6.84	8.36	125.51	11.02	10.95	9.65	6.17	34.96	36.07	34.66	35.09
Dy	3.93	4.18	3.81	4.74	54.75	6.19	6.39	5.26	3.13	15.92	16.41	15.96	15.02
Ho	0.70	0.70	0.63	0.79	8.88	1.08	1.12	0.88	0.52	2.65	2.72	2.56	2.42
Er	1.62	1.50	1.41	1.70	18.64	2.38	2.61	1.97	1.15	5.74	5.70	5.52	4.99
Tm	0.22	0.20	0.17	0.21	2.46	0.32	0.34	0.26	0.15	0.75	0.77	0.71	0.63
Yb	1.33	1.09	0.98	1.19	13.98	1.83	2.03	1.49	0.90	4.17	4.41	4.01	3.60
Lu	0.20	0.15	0.13	0.16	1.87	0.27	0.29	0.22	0.13	0.59	0.62	0.56	0.51
Th	13.83	6.62	6.28	7.66	423.64	20.29	12.72	12.09	16.75	47.59	53.69	53.26	48.93
Nb	80.36	67.07	63.37	76.58	3502.00	202.79	130.28	138.84	75.24	957.00	933.00	898.00	786.13
Zr	105.94	200.81	193.93	234.51	554.30	182.71	277.61	232.63	223.72	554.60	566.09	548.38	542.99
Y	20.28	19.15	17.39	20.42	235.14	28.92	31.42	24.42	14.59	68.87	69.86	69.04	64.88
Sr	306.30	316.30	340.80	355.00	2413.80	837.50	1039.20	1440.30	441.80	3256.00	2865.10	2599.00	2492.10
Rb	35.97	31.28	33.25	20.16	11.68	51.81	41.88	71.14	64.84	40.12	36.22	29.20	45.47
Cs	0.85	1.30	1.71	1.20	2.14	0.97	5.22	2.86	1.88	0.94	0.69	0.62	0.94
Hf	3.11	5.44	5.23	6.28	8.61	4.47	6.70	6.52	5.26	8.01	7.83	7.98	7.23
Ta	3.84	4.15	3.96	4.89	68.10	7.23	6.75	8.28	4.11	34.79	36.29	36.99	34.37
U	2.52	1.74	1.50	1.94	35.17	4.54	1.20	2.89	1.74	16.19	26.16	23.46	11.83

Table 2.6. continued.

	81RPS-0215	81RPS-0216	81RPS-0217	81RPS-0218	81RPS-0219	81RPS-0220	81RPS-0221	81RPS-0222	81RPS-0223	81RPS-0224	81RPS-0225	81RPS-0226	81RPS-0227
SiO2		32.90	32.10	33.30		21.50						36.60	
Al2O3		8.18	7.22	7.91		3.83						10.70	
Fe2O3		8.57	8.27	7.09		8.50						6.66	
FeO		3.63	3.63	2.88		5.35						3.84	
MgO		12.10	12.10	12.40		14.20						11.30	
CaO		14.00	15.10	13.10		19.80						15.80	
Na2O		0.00	0.00	0.07		0.21						2.08	
K2O		0.80	0.81	2.05		0.41						2.06	
TiO2		2.16	2.16	1.84		1.54						2.82	
P2O5		0.41	0.43	0.61		1.22						0.67	
MnO		0.21	0.22	0.21		0.22						0.19	
CO2		3.43	4.15	6.39		13.40						3.00	
S		0.05	0.04	0.03		0.25						0.08	
H2O +		6.33	5.71	4.04		4.72						2.52	
H2O -		0.87	0.75	5.56		1.88						0.72	
LOI		15.40	16.00	17.00		19.80						6.40	
SP-GR		2.57	2.61										
Total		98.60	97.70	97.50		97.00						99.00	
Ba	700.00	1430.00	1020.00	1730.00	1970.00	1680.00	1910.00	1140.00	1140.00	330.00	800.00	1710.00	1320.00
Co	48.00	49.00	47.00	40.00	35.00	41.00	40.00	18.00	15.00	88.00	60.00	47.00	11.00
Cr	385.00	339.00	310.00	253.00	170.00	212.00	134.00	95.00	38.00	47.00	86.00	380.00	19.00
Cu	84.00	84.00	84.00	70.00	62.00	72.00	48.00	22.00	8.00	45.00	16.00	128.00	16.00
Li	10.00	10.00	10.00	14.00	132.00	30.00	18.00	36.00	26.00	31.00	40.00	20.00	22.00
Ni	260.00	240.00	210.00	180.00	83.00	97.00	110.00	58.00	71.00	193.00	175.00	118.00	7.00
Pb	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00
Zn	124.00	138.00	120.00	118.00	100.00	126.00	76.00	82.00	74.00	32.00	165.00	98.00	160.00
Be	2.00	2.00	2.00	2.00	2.00	3.00	4.00	6.00	5.00	3.00	5.00	1.00	4.00
Mo	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00
Sc	13.00	15.00	16.00	13.00	16.00	18.00	20.00	10.00	-1.00	7.00	6.00	25.00	2.00
V	325.00	305.00	315.00	260.00	250.00	320.00	300.00	150.00	185.00	50.00	85.00	315.00	110.00
La	110.42	99.90	103.06	107.29	155.46	176.39	287.97	146.73	232.89	35.48	39.23	97.08	281.08
Ce	192.26	174.58	180.07	185.20	289.99	331.06	529.41	268.06	394.85	72.50	79.51	188.48	496.75
Pr	22.35	20.12	21.02	20.91	34.32	40.41	68.04	30.21	46.79	7.81	8.90	21.85	62.58
Nd	78.23	71.19	74.17	71.28	117.59	139.11	234.79	102.81	152.60	27.16	30.57	78.16	213.12
Sm	13.19	12.09	12.44	11.58	17.70	21.15	33.70	15.23	21.68	4.75	5.39	12.48	30.33
Eu	3.85	3.51	3.63	3.45	4.74	5.53	8.82	4.12	5.82	1.02	1.24	3.57	8.13
Tb	1.42	1.26	1.31	1.25	1.54	1.89	2.88	1.36	2.15	0.58	0.61	1.21	2.74
Gd	10.46	9.40	9.86	9.28	12.83	15.32	23.90	11.20	16.53	3.90	4.36	9.44	22.50
Dy	6.63	5.72	6.12	5.62	6.06	7.48	10.57	5.36	9.06	2.95	3.06	5.13	11.07
Ho	1.17	1.02	1.07	0.99	0.97	1.20	1.68	0.90	1.61	0.60	0.62	0.88	1.84
Er	2.69	2.25	2.47	2.30	1.98	2.50	3.30	2.00	3.73	1.58	1.62	1.90	4.04
Tm	0.35	0.29	0.31	0.31	0.26	0.32	0.41	0.23	0.51	0.25	0.26	0.25	0.51
Yb	2.01	1.72	1.84	1.80	1.41	1.82	2.20	1.42	2.96	1.56	1.74	1.43	2.88
Lu	0.31	0.25	0.27	0.25	0.21	0.26	0.30	0.19	0.42	0.25	0.27	0.22	0.38
Th	11.49	10.67	10.37	9.19	18.80	23.14	17.89	20.66	36.41	10.00	14.75	11.79	34.37
Nb	178.46	179.23	170.92	125.33	240.72	248.68	191.50	226.71	353.00	47.01	61.49	149.64	338.00
Zr	332.94	295.80	278.44	206.04	2033.00	518.26	415.79	527.65	391.15	241.23	333.44	251.98	577.99
Y	31.49	28.32	28.36	19.26	25.88	29.83	41.55	24.79	44.07	20.46	18.86	23.73	49.17
Sr	464.70	858.50	899.70	667.90	1784.00	1379.20	1541.90	1263.90	576.70	152.70	340.30	1368.80	1602.40
Rb	26.83	41.94	40.91	32.28	35.56	19.18	21.32	42.11	81.02	97.45	165.50	78.85	4.79
Cs	0.32	0.65	0.84	0.51	1.30	0.70	0.69	1.38	1.45	2.59	4.45	2.00	0.70
Hf	6.46	6.20	5.80	4.19	31.52	11.59	8.00	7.88	6.86	5.22	6.32	5.90	6.95
Ta	7.29	7.28	6.67	4.58	10.26	13.04	9.36	8.85	10.56	2.00	3.79	7.81	21.68
U	3.84	2.83	2.66	2.24	5.05	6.68	10.53	4.35	5.31	12.92	7.02	2.24	3.93

Table 2.6. continued.

	81RPS-0228	81RPS-0229	81RPS-0230	81RPS-0231	81RPS-0232	81RPS-0233	81RPS-0234	81RPS-0235	81RPS-0236	81RPS-0237	81RPS-0238	81RPS-0239	81RPS-0240
SiO2				9.37									
Al2O3				3.02									
Fe2O3				3.87									
FeO				4.73									
MgO				11.00									
CaO				25.30									
Na2O				0.62									
K2O				0.98									
TiO2				0.19									
P2O5				2.07									
MnO				0.98									
CO2				31.90									
S				0.24									
H2O +				0.99									
H2O -				1.15									
LOI				33.10									
SP-GR													
Total				96.50									
Ba	550.00	1970.00	1030.00	4440.00	430.00	1230.00	580.00	600.00	510.00	1000.00	2190.00	700.00	680.00
Co	10.00	10.00	15.00	10.00	46.00	14.00	27.00	32.00	22.00	23.00	32.00	49.00	35.00
Cr	32.00	34.00	45.00	34.00	405.00	171.00	290.00	354.00	233.00	235.00	254.00	348.00	287.00
Cu	16.00	16.00	18.00	14.00	72.00	28.00	40.00	58.00	42.00	46.00	54.00	78.00	56.00
Li	35.00	32.00	98.00	56.00	14.00	18.00	18.00	14.00	14.00	17.00	14.00	12.00	14.00
Ni	12.00	9.00	15.00	12.00	200.00	85.00	155.00	185.00	113.00	124.00	215.00	325.00	245.00
Pb	38.00	23.00	39.00	40.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00
Zn	180.00	335.00	355.00	950.00	94.00	62.00	79.00	61.00	50.00	59.00	62.00	66.00	62.00
Be	7.00	8.00	12.00	9.00	1.00	2.00	3.00	2.00	2.00	2.00	2.00	1.00	2.00
Mo	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00
Sc	25.00	11.00	14.00	14.00	16.00	17.00	14.00	21.00	17.00	22.00	21.00	24.00	24.00
V	80.00	95.00	90.00	95.00	210.00	135.00	170.00	165.00	130.00	170.00	160.00	175.00	170.00
La	806.12	823.93	848.88	820.21	110.98	85.27	103.82	83.00	92.98	93.18	84.18	89.39	80.53
Ce	913.04	932.50	961.12	928.63	198.18	144.32	176.61	151.60	159.18	166.55	146.19	153.65	142.20
Pr	191.06	186.97	147.48	180.40	22.22	15.24	19.53	17.26	17.64	18.69	16.78	17.13	16.31
Nd	604.78	575.43	497.37	580.27	75.80	50.41	64.31	57.43	56.77	60.77	56.16	57.38	54.42
Sm	77.20	69.50	62.23	75.66	11.91	7.81	10.06	8.83	8.22	9.33	9.01	8.55	8.70
Eu	19.90	17.76	26.06	19.07	3.36	2.25	2.84	2.47	2.20	2.61	2.67	2.47	2.42
Tb	6.29	5.65	5.37	6.36	1.21	0.82	1.03	0.87	0.78	0.92	0.89	0.82	0.84
Gd	52.99	47.23	43.80	52.68	9.39	6.27	7.96	6.89	6.13	7.21	6.97	6.62	6.58
Dy	22.56	20.32	19.22	22.99	5.09	3.58	4.68	3.91	3.31	4.17	3.97	3.42	3.78
Ho	3.67	3.27	3.34	3.71	0.87	0.66	0.82	0.68	0.57	0.75	0.70	0.61	0.64
Er	7.60	7.16	7.03	7.86	1.86	1.50	1.93	1.68	1.34	1.76	1.68	1.49	1.56
Tm	0.94	0.94	0.95	1.04	0.25	0.20	0.26	0.23	0.18	0.23	0.22	0.19	0.21
Yb	5.78	5.59	5.82	6.35	1.34	1.21	1.54	1.36	1.06	1.39	1.37	1.11	1.26
Lu	0.83	0.78	0.87	0.89	0.21	0.18	0.21	0.22	0.16	0.21	0.21	0.18	0.19
Th	185.16	171.80	149.26	167.76	16.33	9.46	12.36	11.88	9.89	12.17	12.44	12.74	11.29
Nb	1966.00	1697.00	1595.00	2153.00	143.22	153.45	187.84	140.29	122.79	168.10	138.88	103.80	134.27
Zr	184.82	445.73	522.95	217.12	257.20	163.64	199.68	186.32	134.21	219.83	166.55	152.04	167.11
Y	95.74	84.02	86.56	95.13	22.98	18.68	23.04	20.21	17.36	21.79	19.29	17.68	19.64
Sr	2573.30	3723.00	1240.80	2628.20	483.50	386.60	458.80	627.30	577.40	743.40	531.60	855.60	689.50
Rb	19.30	23.85	15.80	28.19	60.12	29.50	39.25	41.43	26.15	46.91	41.16	59.74	34.72
Cs	0.62	0.89	0.72	0.93	1.39	0.83	0.89	0.55	0.65	1.24	0.92	0.70	0.76
Hf	1.51	2.90	3.38	2.03	5.30	2.76	3.71	3.59	2.54	4.01	3.18	3.42	3.28
Ta	28.34	28.87	23.47	28.57	6.21	3.90	4.88	5.19	3.83	5.18	5.06	5.04	5.08
U	180.06	139.97	198.36	190.11	4.19	2.30	3.04	2.80	2.40	3.21	2.88	2.71	2.36

Table 2.6. continued.

	81RPS-0241	81RPS-0242	81RPS-0243	81RPS-0244	81RPS-0245	81RPS-0246	81RPS-0247	81RPS-0248	81RPS-0249	81RPS-0250	81RPS-0251	81RPS-0252	81RPS-0253
SiO2		34.40			33.60			34.00	31.50		30.20		
Al2O3		9.98			6.49			7.45	6.26		5.87		
Fe2O3		5.12			4.82			5.27	5.48		4.80		
FeO		4.39			3.29			5.83	3.43		3.15		
MgO		10.20			16.10			17.60	15.00		17.90		
CaO		14.20			11.40			14.80	16.80		14.40		
Na2O		3.03			0.05			1.72	0.37		0.06		
K2O		1.73			1.74			1.94	0.66		0.54		
TiO2		2.75			1.39			2.19	1.94		1.09		
P2O5		0.60			0.68			0.92	0.66		0.55		
MnO		0.18			0.17			0.19	0.16		0.16		
CO2		9.54			5.88			3.18	8.62		9.55		
S		0.10			0.18			0.12	0.04		0.04		
H2O +		2.06			4.92			3.10	4.33		5.84		
H2O -		0.74			6.20			0.65	2.95		4.90		
LOI		11.70			17.70			5.90	16.30		10.20		
SP-GR													
Total		99.00			96.90			99.00	98.20		99.10		
Ba		900.00	2280.00	590.00	2900.00	430.00	350.00	1360.00	300.00	740.00	450.00	510.00	60.00
Co		43.00	42.00	35.00	42.00	29.00	33.00	61.00	45.00	68.00	46.00	50.00	42.00
Cr		305.00	345.00	314.00	301.00	167.00	171.00	980.00	405.00	1150.00	405.00	390.00	425.00
Cu		90.00	80.00	56.00	81.00	52.00	51.00	92.00	73.00	94.00	64.00	68.00	6.00
Li		26.00	16.00	12.00	16.00	15.00	20.00	22.00	20.00	8.00	18.00	22.00	10.00
Ni		106.00	225.00	265.00	250.00	196.00	215.00	480.00	245.00	450.00	380.00	460.00	1100.00
Pb		-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	163.00	12.00	23.00	28.00	44.00
Zn		100.00	68.00	55.00	72.00	54.00	54.00	105.00	92.00	108.00	70.00	76.00	30.00
Be		2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	3.00
Mo		-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00
Sc		40.00	30.00	30.00	30.00	22.00	24.00	24.00	25.00	24.00	21.00	25.00	23.00
V		315.00	190.00	140.00	195.00	115.00	120.00	225.00	175.00	215.00	130.00	145.00	35.00
La	1420.00	91.08	127.35	76.86	132.01			114.52	103.88	94.65	93.01	101.24	
Ce	35.00	169.73	228.42	137.39	233.41			208.11	184.60	175.63	165.01	179.33	
Pr	236.00	20.32	26.22	15.52	26.92			23.95	21.29	20.58	18.41	19.25	
Nd	66.00	71.21	89.60	51.29	91.62			83.39	71.58	71.18	60.36	65.32	
Sm	11.00	11.65	13.59	7.99	13.79			12.80	11.82	11.17	9.26	9.84	
Eu	210.00	3.28	4.02	2.19	4.24			3.51	3.24	3.03	2.58	2.63	
Tb	-10.00	1.14	1.36	0.75	1.49			1.19	1.14	0.98	0.90	0.96	
Gd	55.00	8.98	11.11	6.10	11.42			9.86	9.06	8.01	7.04	7.77	
Dy	2.00	5.10	5.89	3.34	5.89			4.88	4.95	4.02	3.80	4.04	
Ho	-10.00	0.88	1.03	0.59	1.00			0.80	0.81	0.67	0.65	0.72	
Er	30.00	2.02	2.32	1.39	2.31			1.74	1.81	1.51	1.43	1.58	
Tm	120.00	0.26	0.28	0.18	0.28			0.24	0.24	0.18	0.19	0.20	
Yb		1.52	1.59	1.12	1.67			1.28	1.35	1.00	1.11	1.22	
Lu	78.07	0.22	0.23	0.18	0.23			0.18	0.20	0.15	0.17	0.17	
Th	136.65	10.18	15.18	11.15	16.11			15.06	14.96	12.32	13.11	13.68	
Nb	15.01	145.49	143.07	96.31	149.28			144.18	124.86	97.04	69.70	71.96	
Zr	49.58	311.54	196.15	142.32	197.29			250.01	230.84	182.54	128.24	135.21	
Y	7.61	23.97	30.33	15.76	30.66			21.46	22.93	18.20	18.70	19.27	
Sr	2.20	994.40	911.90	516.80	905.10			1947.40	692.90	398.80	1113.00	492.50	
Rb	0.75	67.36	74.06	37.71	74.92			71.65	25.32	46.95	26.39	21.65	
Cs	5.91	4.06	1.08	0.49	1.05			0.93	0.65	0.86	0.65	0.47	
Hf	3.30	6.53	4.09	2.85	4.14			5.06	4.60	4.19	2.83	2.92	
Ta	0.57	7.30	6.09	4.32	6.06			7.66	5.65	5.28	3.13	3.34	
U	1.36	1.77	3.29	3.06	3.27			2.96	2.74	2.24	2.59	2.70	

Table 2.6. continued.

	81RPS-0254	82RPS-0001	82RPS-0002	82RPS-0004	82RPS-0005	82RPS-0006	82RPS-0141	82RPS-0142	82RPS-0143	82RPS-0144	82RPS-0145	82RPS-0146	82RPS-0147
SiO2		31.30	29.00	30.50	28.90	31.30	22.90	37.50	32.10	36.20	29.00	28.20	36.40
Al2O3		7.16	6.00	5.62	4.31	5.18	5.71	8.49	6.23	7.40	6.69	3.68	8.26
Fe2O3		7.64	5.12	7.68	4.82	3.49	4.05	4.58	9.02	7.94	6.33	5.97	7.43
FeO		3.29	2.85	4.16	3.36	2.92	4.60	3.43	3.72	4.16	3.36	4.89	5.19
MgO		11.70	8.92	11.90	15.50	21.20	7.74	12.40	19.60	15.40	10.40	21.70	21.10
CaO		16.00	18.80	20.30	17.80	13.80	21.70	13.30	13.60	14.10	16.10	13.40	9.86
Na2O		0.35	0.90	0.39	0.30	0.32	0.33	0.27	0.00	0.00	0.00	0.00	0.11
K2O		0.79	2.48	0.18	0.22	0.40	2.48	1.91	2.14	0.97	0.61	2.86	0.35
TiO2		2.15	0.96	3.20	1.45	1.68	1.34	1.10	2.02	2.68	1.92	3.00	2.52
P2O5		0.44	0.66	0.70	0.36	0.45	0.85	0.18	0.90	0.42	0.43	0.57	0.32
MnO		0.20	0.42	0.25	0.15	0.17	0.30	0.14	0.24	0.19	0.14	0.19	0.20
CO2		4.79	14.10	2.92	12.10	8.83	18.80	7.16	2.05	2.11	15.30	8.85	0.21
S		0.10	0.32	0.12	0.22	0.13	0.07	0.10	0.06	0.03	0.25	0.08	0.02
H2O +		6.79	3.16	9.03	6.44	8.21	1.77	3.70	6.69	5.29	2.92	4.04	6.14
H2O -		4.63	2.10	1.03	1.96	1.39	1.03	4.03	0.51	2.80	3.49	1.07	1.01
LOI		15.90	19.60	12.30	20.10	17.00	21.00	14.10	8.30	9.90	21.80	13.00	7.30
SP-GR													2.89
Total		97.30	95.80	98.00	98.00	99.50	93.70	98.30	98.90	99.70	96.90	98.20	99.10
Ba	110.00	1020.00	2510.00	1400.00	740.00	1470.00	2240.00	700.00	1120.00	730.00	720.00	2000.00	950.00
Co	30.00	40.00	20.00	38.00	41.00	37.00	30.00	35.00	55.00	57.00	43.00	61.00	60.00
Cr	370.00	440.00	150.00	199.00	415.00	425.00	390.00	362.00	520.00	665.00	490.00	785.00	555.00
Cu	5.00	90.00	37.00	220.00	80.00	82.00	58.00	58.00	86.00	94.00	76.00	98.00	97.00
Li	22.00	12.00	60.00	16.00	47.00	12.00	14.00	22.00	10.00	12.00	34.00	14.00	22.00
Ni	880.00	220.00	157.00	136.00	410.00	290.00	114.00	235.00	164.00	315.00	220.00	615.00	360.00
Pb	54.00	-10.00	12.00	-10.00	10.00	220.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	1950.00
Zn	30.00	142.00	210.00	137.00	80.00	420.00	120.00	84.00	118.00	116.00	103.00	99.00	104.00
Be	9.00	3.00	5.00	4.00	2.00	2.00	2.00	2.00	2.00	3.00	3.00	1.00	2.00
Mo	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00
Sc	23.00	22.00	14.00	24.00	15.00	18.00	13.00	12.00	10.00	15.00	13.00	10.00	18.00
V	35.00	340.00	225.00	245.00	175.00	330.00	195.00	150.00	230.00	235.00	210.00	130.00	325.00
La		104.85	335.53	191.28	86.33	124.51	292.66	46.62	216.15	129.49	122.32	183.06	79.14
Ce		186.48	563.03	356.93	156.90	212.08	486.30	90.18	395.32	223.07	209.76	322.29	153.73
Pr		20.47	68.59	42.17	17.33	24.27	58.87	10.38	49.31	25.65	23.79	38.76	17.97
Nd		73.69	221.79	149.22	59.67	87.50	198.92	38.26	171.93	88.35	81.59	133.79	67.24
Sm		12.52	30.49	22.06	8.79	13.08	27.96	8.21	26.52	14.24	12.62	20.70	11.49
Eu		3.67	8.03	5.83	2.36	3.71	7.34	2.97	7.08	3.94	3.49	5.44	3.26
Tb		1.34	2.75	2.03	0.88	1.25	2.44	2.07	2.44	1.38	1.27	1.84	1.24
Gd		10.45	22.18	16.51	6.98	10.76	20.42	10.59	10.04	10.99	9.97	15.40	9.35
Dy		6.12	11.11	8.07	3.70	4.67	9.70	13.27	9.64	6.01	5.55	6.99	5.46
Ho		1.10	1.91	1.32	0.65	0.79	1.58	2.63	1.56	0.99	0.93	1.08	0.94
Er		2.50	4.08	2.78	1.54	1.70	3.36	6.18	3.40	2.10	2.05	2.15	2.08
Tm		0.33	0.54	0.33	0.20	0.22	0.43	0.79	0.42	0.27	0.26	0.25	0.26
Yb		1.93	3.08	1.90	1.24	1.16	2.43	4.27	2.29	1.47	1.55	1.34	1.51
Lu		0.28	0.43	0.27	0.20	0.19	0.34	0.52	0.31	0.21	0.22	0.19	0.22
Th		7.04	39.37	24.30	10.90	16.04	41.71	15.50	38.14	18.07	17.44	22.54	7.88
Nb		118.38	644.00	320.00	93.02	96.95	404.00	77.47	207.89	124.44	165.87	278.89	124.23
Zr		194.36	181.54	430.48	144.63	178.64	315.88	115.79	536.42	259.95	487.78	316.23	268.94
Y		20.06	49.61	33.93	17.89	22.97	38.52	74.23	39.20	24.76	25.07	27.09	24.56
Sr		595.80	2162.40	1135.60	537.50	312.90	3449.00	520.80	1305.10	1106.70	1330.00	1484.40	942.60
Rb		26.35	58.77	16.66	13.32	16.26	77.34	35.39	58.37	31.68	35.21	169.28	21.67
Cs		0.42	1.24	0.28	0.31	0.47	1.43	0.23	0.97	0.69	1.18	3.99	1.05
Hf		3.70	3.58	10.32	3.35	3.92	5.06	2.76	8.11	5.92	5.93	7.15	5.78
Ta		4.59	29.79	22.27	4.62	5.00	32.37	3.01	16.97	6.43	6.53	15.70	6.47
U		1.94	23.57	6.69	2.03	7.00	17.80	1.60	8.73	3.09	3.73	4.31	2.04

Table 2.6. continued.

	82RPS-0148	82RPS-0149	82RPS-0150	82RPS-0151	82RPS-0152	82RPS-0153	82RPS-0154	82RPS-0155	82RPS-0156	82RPS-0157
SiO2	39.50	33.50	29.60	31.60	33.90	40.30	36.70	39.50	26.00	40.90
Al2O3	10.40	7.00	5.02	5.75	6.61	13.30	10.10	11.30	750.00	10.10
Fe2O3	5.49	6.25	5.73	5.09	6.57	3.62	7.40	5.33	8.92	5.36
FeO	3.07	3.29	3.80	3.94	4.60	7.52	4.75	5.33	4.02	3.72
MgO	4.62	18.60	16.00	20.80	25.20	7.87	12.50	7.93	13.90	16.30
CaO	17.40	9.24	15.40	11.70	5.12	9.35	15.60	8.18	15.60	5.80
Na2O	2.80	0.00	0.00	0.00	0.00	2.42	0.58	1.25	0.00	0.88
K2O	3.11	0.97	0.30	1.36	0.03	3.77	1.83	2.91	1.98	1.98
TiO2	1.57	1.47	1.74	1.53	1.78	1.21	1.58	1.34	1.27	1.28
P2O5	0.46	0.17	0.26	0.18	0.25	0.33	0.71	0.22	1.01	0.49
MnO	0.29	0.18	0.12	0.13	0.14	0.19	0.33	0.11	0.18	0.14
CO2	7.97	4.89	11.20	8.76	1.01	6.48	1.23	7.18	11.10	0.55
S	0.39	0.05	0.02	0.13	0.69	0.11	0.32	0.04	0.01	0.01
H2O +	2.18	6.85	6.00	7.23	10.11	2.66	4.44	4.90	5.74	6.02
H2O -	0.30	5.83	3.94	1.89	2.51	0.39	0.24	2.55	0.94	4.10
LOI	9.50	17.50	20.20	16.20	13.80	8.50	5.60	13.50	16.90	10.80
SP-GR	2.84				2.27	2.81	3.05	2.57	2.56	2.40
Total	99.60	98.30	99.10	100.10	98.50	99.50	98.30	98.10	98.20	97.60
Ba	2050.00	810.00	800.00	1020.00	150.00	1400.00	2680.00	800.00	1180.00	940.00
Co	21.00	48.00	56.00	52.00	52.00	43.00	50.00	45.00	44.00	40.00
Cr	51.00	333.00	372.00	394.00	396.00	256.00	374.00	311.00	249.00	274.00
Cu	42.00	61.00	74.00	61.00	65.00	68.00	72.00	71.00	30.00	82.00
Li	20.00	15.00	32.00	18.00	55.00	22.00	63.00	20.00	88.00	46.00
Ni	18.00	450.00	470.00	420.00	365.00	179.00	245.00	194.00	173.00	255.00
Pb	705.00	685.00	66.00	715.00	520.00	1170.00	680.00	285.00	142.00	187.00
Zn	150.00	83.00	68.00	76.00	440.00	210.00	155.00	94.00	350.00	84.00
Be	5.00	3.00	2.00	2.00	2.00	4.00	4.00	2.00	3.00	2.00
Mo	15.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00
Sc	11.00	11.00	11.00	11.00	9.00	18.00	21.00	25.00	19.00	16.00
V	335.00	245.00	205.00	190.00	225.00	170.00	210.00	205.00	205.00	185.00
La	193.59	104.00	66.62	91.52	48.93	83.91	383.27	54.14	224.33	109.51
Ce	337.98	181.34	128.83	170.89	100.62	155.15	580.17	107.30	443.05	208.26
Pr	39.12	19.19	14.76	19.09	11.90	17.80	65.34	13.19	57.69	24.75
Nd	135.56	64.89	53.88	67.16	44.91	61.97	205.55	49.39	209.20	89.87
Sm	21.53	9.71	8.44	10.29	8.63	10.26	27.30	8.40	31.85	13.77
Eu	6.14	2.67	2.33	2.77	2.52	3.13	7.63	2.35	8.19	3.75
Tb	2.27	1.01	0.79	0.97	1.08	1.45	2.74	0.92	2.61	1.28
Gd	17.06	7.76	6.65	7.91	7.84	9.42	21.09	6.83	22.21	10.61
Dy	10.43	4.25	3.29	4.19	5.52	8.01	11.96	4.37	10.00	6.64
Ho	1.84	0.76	0.53	0.70	0.97	1.64	2.19	0.78	1.64	1.01
Er	4.25	1.73	1.15	1.55	2.36	4.31	5.34	1.96	3.39	2.31
Tm	0.56	0.23	0.13	0.22	0.30	0.63	0.75	0.26	0.43	0.31
Yb	3.37	1.35	0.81	1.21	1.86	3.62	4.46	1.57	2.49	1.91
Lu	0.49	0.20	0.12	0.19	0.26	0.48	0.62	0.25	0.34	0.28
Th	28.39	12.15	12.71	11.24	10.76	20.31	40.11	7.33	50.65	13.28
Nb	321.00	138.88	138.60	90.90	76.25	133.19	201.05	65.73	469.00	85.30
Zr	434.96	241.07	239.78	153.96	231.30	158.48	185.12	176.54	197.16	168.36
Y	50.54	20.79	20.74	18.22	25.44	43.53	61.36	20.99	41.98	26.32
Sr	2131.20	639.30	633.90	428.10	123.70	1485.10	4678.00	1777.20	1819.10	625.20
Rb	76.67	35.69	35.41	43.18	2.15	87.38	71.79	61.54	58.34	43.49
Cs	1.80	0.59	0.57	2.17	0.16	2.01	3.50	3.07	3.10	0.89
Hf	7.12	4.44	4.56	3.39	4.96	2.26	3.25	3.41	3.49	3.47
Ta	10.93	5.01	4.95	4.84	4.16	5.91	6.87	3.90	19.18	4.35
U	8.16	3.33	3.37	2.54	2.59	5.56	6.12	2.02	13.42	3.38

Table 2.7. Normative mineral calculations for mafic to ultramafic diatremes from the James Bay Lowlands.

	81RPS-0192	81RPS-0193	81RPS-0201	81RPS-0205	81RPS-0211	81RPS-0212	81RPS-0214	81RPS-0216	81RPS-0217	81RPS-0218
SiO2	35.80	35.50	39.80	35.30	21.90	23.60	20.60	32.90	32.10	33.30
TiO2	2.94	2.15	1.45	2.48	1.12	1.24	1.14	2.16	2.16	1.84
Al2O3	12.20	12.20	8.31	7.04	5.50	5.65	5.48	8.18	7.22	7.91
Fe2O3	4.16	5.51	4.76	6.82	7.06	6.64	4.89	8.57	8.27	7.09
FeO	7.33	6.38	4.32	4.66	1.77	2.66	2.95	3.63	3.63	2.88
FeOT	11.07	11.34	8.60	10.80	8.12	8.63	7.35	11.34	11.07	9.26
Fe2O3T	12.30	12.60	9.56	12.00	9.03	9.60	8.17	12.60	12.30	10.29
MnO	0.21	0.23	0.16	0.15	0.50	0.56	0.40	0.21	0.22	0.21
MgO	15.60	13.60	18.90	18.40	6.85	7.69	4.90	12.10	12.10	12.40
CaO	13.00	11.10	6.09	10.50	27.10	25.50	28.10	14.00	15.10	13.10
Na2O	2.59	1.48	0.27	0.26	0.51	0.53	0.31	0.00	0.00	0.07
K2O	1.60	0.45	1.05	0.43	1.17	1.00	1.06	0.80	0.81	2.05
P2O5	0.98	2.29	0.43	0.64	2.09	2.14	2.67	0.41	0.43	0.61
H2OP										
H2OM										
CO2	0.28	0.27	0.76	2.89	16.20	14.40	17.90	3.43	4.15	6.39
CL										
F										
LOI	1.50	7.50	13.10	11.70	21.30	19.10	22.90	15.40	16.00	17.00
TOTAL	98.60	98.60	98.30	99.00	96.40	96.70	95.30	98.60	97.70	97.50
ACNK										
Q	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OR	0.00	2.93	7.26	2.93	0.00	0.00	0.00	0.00	0.00	0.00
AB	0.00	8.61	2.67	2.54	0.00	0.00	0.00	0.00	0.00	0.00
AN	17.54	27.82	21.43	19.32	12.23	13.04	14.36	24.02	21.07	18.64
NE	12.31	2.79	0.00	0.00	3.09	3.14	1.96	0.00	0.00	0.39
LC	7.70	0.00	0.00	0.00	7.18	6.01	6.78	4.47	4.58	11.67
AC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DI	34.23	14.16	8.55	28.34	48.95	53.78	37.11	44.17	52.23	44.13
DIWO	18.12	7.52	4.57	15.22	26.29	28.88	19.89	23.72	28.05	23.70
DIEN	14.10	5.94	3.83	13.12	22.66	24.90	16.90	20.45	24.18	20.43
DIFS	2.01	0.70	0.15	0.00	0.00	0.00	0.33	0.00	0.00	0.00
HY	0.00	0.00	34.05	3.38	0.00	0.00	0.00	0.00	0.00	0.00
HYEN	0.00	0.00	32.74	3.38	0.00	0.00	0.00	0.00	0.00	0.00
HYFS	0.00	0.00	1.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OL	21.34	24.91	13.65	25.60	0.00	0.00	0.00	11.21	8.88	12.34
OLFO	18.44	22.02	13.07	25.60	0.00	0.00	0.00	11.21	8.88	12.34
OLFA	2.90	2.88	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MT	6.26	8.79	8.07	9.59	5.41	8.81	9.78	7.38	7.50	5.68
HM	0.00	0.00	0.00	1.25	5.61	2.52	0.00	5.24	4.91	4.78
IL	5.79	4.49	3.22	5.44	2.82	3.05	2.99	4.95	5.00	4.29
AP	2.22	5.50	1.10	1.61	6.04	6.05	8.04	1.08	1.14	1.63
C_I	67.62	52.36	67.55	72.34	57.17	65.65	49.88	67.70	73.62	66.44
D_I	20.00	14.33	9.93	5.47	10.27	9.15	8.74	4.47	4.58	12.07

Table 2.7. continued.

	81RPS-0220	81RPS-0226	81RPS-0231	81RPS-0242	81RPS-0245	81RPS-0248	81RPS-0249	81RPS-0251	82RPS-0001	82RPS-0002
SiO2	21.50	36.60	9.37	34.40	33.60	34.00	31.50	30.20	31.30	29.00
TiO2	1.54	2.82	0.19	2.75	1.39	2.19	1.94	1.09	2.15	0.96
Al2O3	3.83	10.70	3.02	9.98	6.49	7.45	6.26	5.87	7.16	6.00
Fe2O3	8.50	6.66	3.87	5.12	4.82	5.27	5.48	4.80	7.64	5.12
FeO	5.35	3.84	4.73	4.39	3.29	5.83	3.43	3.15	3.29	2.85
FeOT	13.00	9.83	8.21	9.00	7.63	10.57	8.36	7.47	10.16	7.46
Fe2O3T	14.44	10.93	9.13	10.00	8.48	11.75	9.29	8.30	11.30	8.29
MnO	0.22	0.19	0.98	0.18	0.17	0.19	0.16	0.16	0.20	0.42
MgO	14.20	11.30	11.00	10.20	16.10	17.60	15.00	17.90	11.70	8.92
CaO	19.80	15.80	25.30	14.20	11.40	14.80	16.80	14.40	16.00	18.80
Na2O	0.21	2.08	0.62	3.03	0.05	1.72	0.37	0.06	0.35	0.90
K2O	0.41	2.06	0.98	1.73	1.74	1.94	0.66	0.54	0.79	2.48
P2O5	1.22	0.67	2.07	0.60	0.68	0.92	0.66	0.55	0.44	0.66
H2OP										
H2OM										
CO2	13.40	3.00	31.90	9.54	5.88	3.18	8.62	9.55	4.79	14.10
CL										
F										
LOI	19.80	6.40	33.10	11.70	17.70	5.90	16.30	10.20	15.90	19.60
TOTAL	97.00	99.00	96.50	99.00	96.90	99.00	98.20	99.10	97.30	95.80
ACNK										
Q	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AN	10.79	14.82	4.11	9.82	15.45	7.46	16.35	17.95	19.27	6.55
NE	1.25	10.28	4.57	16.03	0.29	8.57	2.06	0.35	1.98	5.42
LC	2.48	10.31	7.32	9.27	10.12	9.79	3.72	3.18	4.52	15.11
AC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DI	84.01	50.91	116.74	52.47	39.26	52.13	62.41	53.46	58.72	63.78
DIWO	45.02	27.34	61.23	28.18	21.08	27.79	33.52	28.69	31.54	34.22
DIEN	38.27	23.57	44.26	24.29	18.15	22.75	28.89	24.60	27.19	29.30
DIFS	0.72	0.00	11.25	0.00	0.04	1.59	0.00	0.17	0.00	0.26
HY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HYEN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HYFS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OL	5.69	4.83	0.00	3.61	22.68	18.94	11.69	22.75	6.24	0.00
OLFO	5.58	4.83	0.00	3.61	22.64	17.59	11.69	22.57	6.24	0.00
OLFA	0.12	0.00	0.00	0.00	0.05	1.36	0.00	0.17	0.00	0.00
MT	16.05	5.19	9.03	7.81	8.77	8.31	7.23	8.84	6.20	9.75
HM	0.00	3.60	0.00	0.53	0.00	0.00	1.67	0.00	5.16	0.00
IL	3.81	5.78	0.58	6.03	3.31	4.53	4.48	2.63	5.04	2.40
AP	3.47	1.58	7.27	1.51	1.86	2.19	1.75	1.53	1.19	1.89
C_I	109.56	66.71	126.35	69.93	74.02	83.92	85.81	87.68	76.20	75.93
D_I	3.73	20.58	11.89	25.30	10.41	18.36	5.78	3.53	6.50	20.53

Table 2.7. continued.

	82RPS-0004	82RPS-0005	82RPS-0006	82RPS-0141	82RPS-0142	82RPS-0143	82RPS-0144	82RPS-0145	82RPS-0146	82RPS-0147
SiO2	30.50	28.90	31.30	22.90	37.50	32.10	36.20	29.00	28.20	36.40
TiO2	3.20	1.45	1.68	1.34	1.10	2.02	2.68	1.92	3.00	2.52
Al2O3	5.62	4.31	5.18	5.71	8.49	6.23	7.40	6.69	3.68	8.26
Fe2O3	7.68	4.82	3.49	4.05	4.58	9.02	7.94	6.33	5.97	7.43
FeO	4.16	3.36	2.92	4.60	3.43	3.72	4.16	3.36	4.89	5.19
FeOT	11.07	7.70	6.06	8.24	7.55	11.84	11.30	9.06	10.26	11.88
Fe2O3T	12.30	8.55	6.73	9.16	8.39	13.15	12.56	10.06	11.40	13.20
MnO	0.25	0.15	0.17	0.30	0.14	0.24	0.19	0.14	0.19	0.20
MgO	11.90	15.50	21.20	7.74	12.40	19.60	15.40	10.40	21.70	21.10
CaO	20.30	17.80	13.80	21.70	13.30	13.60	14.10	16.10	13.40	9.86
Na2O	0.39	0.30	0.32	0.33	0.27	0.00	0.00	0.00	0.00	0.11
K2O	0.18	0.22	0.40	2.48	1.91	2.14	0.97	0.61	2.86	0.35
P2O5	0.70	0.36	0.45	0.85	0.18	0.90	0.42	0.43	0.57	0.32
H2OP										
H2OM										
CO2	2.92	12.10	8.83	18.80	7.16	2.05	2.11	15.30	8.85	0.21
CL										
F										
LOI	12.30	20.10	17.00	21.00	14.10	8.30	9.90	21.80	13.00	7.30
TOTAL	98.00	98.00	99.50	93.70	98.30	98.90	99.70	96.90	98.20	99.10
ACNK										
Q	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.26
AB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.01
AN	15.36	12.64	14.21	9.37	19.54	11.89	19.34	21.91	1.86	22.87
NE	2.10	1.78	1.81	2.10	1.48	0.00	0.00	0.00	0.00	0.00
LC	0.98	1.32	2.29	15.98	10.64	11.08	5.03	3.77	15.71	0.00
AC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DI	75.71	77.04	52.21	67.02	45.57	44.74	43.63	63.18	56.67	22.09
DIWO	40.66	41.36	28.04	35.37	24.39	24.03	23.43	33.93	30.43	11.86
DIEN	35.05	35.61	24.16	26.88	20.55	20.71	20.20	29.25	26.24	10.23
DIFS	0.00	0.06	0.01	4.78	0.63	0.00	0.00	0.00	0.00	0.00
HY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.97
HYEN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.97
HYFS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OL	0.00	10.24	28.95	0.00	12.07	23.79	15.99	3.80	26.60	30.31
OLFO	0.00	10.22	28.94	0.00	11.67	23.79	15.99	3.80	26.60	30.31
OLFA	0.00	0.02	0.01	0.00	0.40	0.00	0.00	0.00	0.00	0.00
MT	5.82	9.06	6.25	8.16	7.97	7.72	6.99	7.62	9.09	10.98
HM	5.03	0.00	0.00	0.00	0.00	4.75	4.05	3.18	0.80	0.53
IL	7.16	3.57	3.95	3.54	2.51	4.28	5.69	4.87	6.75	5.22
AP	1.80	1.02	1.21	2.58	0.47	2.19	1.02	1.25	1.47	0.76
C_I	88.69	99.91	91.36	78.72	68.11	80.54	72.29	79.47	99.11	72.57
D_I	3.09	3.10	4.10	18.08	12.12	11.08	5.03	3.77	15.71	3.27

Table 2.7. continued.

	82RPS-0148	82RPS-0149	82RPS-0150	82RPS-0151	82RPS-0152	82RPS-0153	82RPS-0154	82RPS-0155	82RPS-0156	82RPS-0157
SiO2	39.50	33.50	29.60	31.60	33.90	40.30	36.70	39.50	26.00	40.90
TiO2	1.57	1.47	1.74	1.53	1.78	1.21	1.58	1.34	1.27	1.28
Al2O3	10.40	7.00	5.02	5.75	6.61	13.30	10.10	11.30	750.00	10.10
Fe2O3	5.49	6.25	5.73	5.09	6.57	3.62	7.40	5.33	8.92	5.36
FeO	3.07	3.29	3.80	3.94	4.60	7.52	4.75	5.33	4.02	3.72
FeOT	8.01	8.91	8.96	8.52	10.51	10.78	11.41	10.13	12.05	8.54
Fe2O3T	8.90	9.91	9.95	9.47	11.68	11.97	12.68	11.25	13.39	9.49
MnO	0.29	0.18	0.12	0.13	0.14	0.19	0.33	0.11	0.18	0.14
MgO	4.62	18.60	16.00	20.80	25.20	7.87	12.50	7.93	13.90	16.30
CaO	17.40	9.24	15.40	11.70	5.12	9.35	15.60	8.18	15.60	5.80
Na2O	2.80	0.00	0.00	0.00	0.00	2.42	0.58	1.25	0.00	0.88
K2O	3.11	0.97	0.30	1.36	0.03	3.77	1.83	2.91	1.98	1.98
P2O5	0.46	0.17	0.26	0.18	0.25	0.33	0.71	0.22	1.01	0.49
H2OP										
H2OM										
CO2	7.97	4.89	11.20	8.76	1.01	6.48	1.23	7.18	11.10	0.55
CL										
F										
LOI	9.50	17.50	20.20	16.20	13.80	8.50	5.60	13.50	16.90	10.80
TOTAL	99.60	98.30	99.10	100.10	98.50	99.50	98.30	98.10	98.20	97.60
ACNK										
Q	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	87.69	0.00
OR	20.74	4.58	0.00	0.00	0.21	10.67	0.00	20.64	0.00	13.47
AB	13.45	0.00	0.00	0.00	0.00	0.00	0.00	12.32	0.00	8.55
AN	7.43	20.09	16.41	14.19	21.29	15.85	21.19	19.89	8.69	20.39
NE	7.17	0.00	0.00	0.00	0.00	12.33	2.89	0.19	0.00	0.00
LC	0.00	1.99	1.78	7.69	0.00	11.09	9.22	0.00	1.12	0.00
AC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DI	28.12	27.61	61.91	43.02	5.56	27.14	45.46	21.53	0.00	7.33
DIWO	15.10	14.83	33.25	23.07	2.98	14.03	24.36	11.37	0.00	3.93
DIEN	13.02	12.78	28.66	19.67	2.56	8.94	20.69	8.69	0.00	3.35
DIFS	0.00	0.00	0.00	0.28	0.01	4.16	0.40	1.48	0.00	0.04
HY	0.00	0.00	0.00	0.00	20.30	0.00	0.00	0.00	0.00	21.37
HYEN	0.00	0.00	0.00	0.00	20.19	0.00	0.00	0.00	0.00	21.08
HYFS	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.28
OL	0.00	31.40	15.85	31.06	36.66	13.72	9.47	12.54	2.96	15.93
OLFO	0.00	31.40	15.85	30.58	36.45	9.06	9.27	10.56	2.96	15.70
OLFA	0.00	0.00	0.00	0.48	0.21	4.66	0.20	1.98	0.00	0.23
MT	7.09	8.59	9.74	8.99	11.31	5.84	11.65	9.27	1.20	8.94
HM	1.30	1.83	0.64	0.00	0.00	0.00	0.00	0.00	0.26	0.00
IL	3.36	3.46	4.24	3.54	4.02	2.56	3.26	3.05	0.29	2.80
AP	1.13	0.46	0.73	0.48	0.65	0.80	1.68	0.58	0.27	1.23
C_I	38.57	71.06	91.73	86.61	77.85	49.26	69.84	46.39	4.45	56.36
D_I	41.35	6.57	1.78	7.69	0.21	34.09	12.10	33.15	1.12	22.02

Table 3.1. Brief thin section descriptions of a limited number of pseudokimberlite samples from indicator-mineral-bearing ultramafic intrusions provided to the Ontario Geological Survey from 1996–1997 by Ashton Mining of Canada Incorporated and Murgor Resources Incorporated. Samples and thin sections are now archived at the Royal Ontario Museum, Toronto, Ontario.

I5-10-1: Altered ultramafic rock
Clinopyroxene forms anhedral rounded to angular grains undergoing limited alteration to chlorite. Biotite-phlogopite forms anhedral to subhedral tabular grains. Anhedral disseminated opaques occur throughout the sample. The matrix consists of very fine grained carbonate, chlorite, serpentine and iron oxide. The texture is very fine to medium grained inequigranular seriate allotriomorphic with moderately developed pelletal and autolithic structures. The pelletal structures may be cored with pyroxene.

I5-10-2: Altered ultramafic rock
One lithic clast was angular in outline and consisted of very fine grained fossiliferous limestone. Clinopyroxene is present as anhedral subrounded to angular grains, which may have a distinct cleavage. The pyroxene is weakly altered to chlorite and possibly some serpentine. Anhedral disseminated opaques occur throughout the sample. Very fine grained serpentine, chlorite, carbonate and iron oxide comprise the matrix. The rock displays a very fine to medium grained inequigranular allotriomorphic texture.

I5-10-3: Altered ultramafic rock
Clinopyroxene displays anhedral outline and some chlorite alteration along the grain margins. Trace to minor amounts of phlogopite are present as anhedral tabular grains with bent (001) cleavage. Possible traces of anhedral olivine undergoing serpentinization. Trace to minor amounts of anhedral disseminated opaques. The sample matrix consists of very fine grained carbonate, chlorite, serpentine and iron oxide. The texture is very fine to medium grained inequigranular seriate allotriomorphic with autolithic structures.

I5-10-4: Altered ultramafic rock
Clinopyroxene forms anhedral relatively fresh grains with some chloritic alteration. One opaque grain was observed to be poikilitically enclosed in the pyroxene. Trace to minor amounts of anhedral opaques disseminated throughout the rock. Trace to minor amounts of phlogopite forms anhedral to subhedral tabular grains with bent (001) cleavage. Carbonate, chlorite, serpentine and iron oxide form the very fine grained matrix. A very fine to medium grained inequigranular seriate allotriomorphic texture with autolithic structures is displayed by the sample.

SP94-8 (592.0 feet): Altered ultramafic rock
Olivine is a major component forming anhedral to subhedral grains with a rounded to subangular shape. The olivine is totally replaced by carbonate and serpentine. Rounded lithic clasts of angular to rounded shape are composed for fine grained carbonate and reddish porphyroblastic carbonate in fine grained carbonate. Phlogopite-biotite occurs as anhedral rounded to angular tabular grains with bent (001) cleavage. The mica displays some chloritic alteration. Anhedral opaques are present scattered throughout the specimen. Very fine grained carbonate, chlorite, serpentine and iron oxide comprise the matrix. The matrix is deep reddish brown in color and the sample maybe weathered. The rock texture is very fine to medium grained inequigranular porphyritic seriate allotriomorphic.

SP94-8 (806.0 feet) (A): Altered ultramafic rock
The specimen is dominated by lithic clasts. The lithic clasts consist of angular to subangular very fine grained carbonate and reddish porphyroblastic carbonate set in a very fine grained carbonate. Olivine is anhedral in outline forming rounded to subangular grains completely replaced by serpentine and carbonate. Subhedral to euhedral phlogopite-biotite is present in very minor amounts and may display bent (001) cleavage. The rock matrix consists of very fine grained carbonate, chlorite and serpentine. A very fine to medium grained inequigranular porphyritic seriate allotriomorphic texture with weakly developed autolithic structure is displayed by the sample.

SP94-8 (806.0 feet) (B): Altered ultramafic rock
Lithic clasts are a dominant rock component. The lithic clasts consist of angular to subangular rock fragments of very fine grained carbonate, reddish carbonate porphyroblasts set in fine grained carbonate and one mafic clast consisting of subparallel mica grains. Olivine is abundant as anhedral rounded to subangular grains, which have been replaced by serpentine and carbonate. Trace to minor amounts of anhedral to subhedral opaques occur disseminated throughout the sample. Trace to minor amounts of phlogopite-biotite are present as anhedral to subhedral grains displaying bent (001) cleavage. Serpentine, chlorite and carbonate compose the very fine grained matrix. The rock displays a very fine to medium grained inequigranular porphyritic seriate allotriomorphic texture.

Table 3.2. Electron microprobe analyses of mica and oxide phases for Six-Pak complex and anomaly 15-10.

Sample	SiO2	TiO2	Al2O3	V2O5	Cr2O3	MgO	CaO	MnO	FeO	NiO	BaO	Na2O	K2O	F	Cl	Total
Six-Pak																
SPA-mica-6c	38.48	5.36	14.39	0.10	1.41	19.95	0.04	0.04	6.14	0.14	0.16	0.39	10.21	0.26	0.00	97.07
SPB-mica-12c	41.09	0.10	10.69	0.00	0.36	25.64	0.04	0.04	5.10	0.16	0.67	0.19	10.63	0.35	0.00	95.06
SPB-mica-13c	40.41	2.60	12.47	0.03	0.00	22.25	0.03	0.03	7.19	0.08	0.00	0.17	10.04	0.36	0.07	95.73
SPB-mica-16c	39.06	5.88	12.92	0.06	0.17	19.50	0.01	0.00	6.88	0.06	0.00	0.38	10.20	0.33	0.02	95.47
SPB-mica-16r	37.45	5.23	14.65	0.11	1.59	19.46	0.03	0.05	5.64	0.12	0.03	0.41	10.09	0.34	0.02	95.22
SPB-mica-17c	40.60	0.14	6.28	0.00	0.05	24.52	0.04	0.07	11.22	0.05	0.03	0.15	10.30	0.44	0.01	93.90
altered micas																
SPA-mica-6r	38.31	5.10	14.33	0.00	1.46	20.43	0.00	0.03	6.09	0.09	0.22	0.32	9.91	0.27	0.02	96.58
SPB-mica-11c	37.85	2.53	11.58	0.09	0.03	23.73	0.07	0.02	9.01	0.08	0.00	0.23	7.38	0.36	0.06	93.02
SPB-mica-11r	39.37	2.80	12.31	0.00	0.01	22.70	0.07	0.03	7.18	0.05	0.00	0.23	9.14	0.35	0.03	94.27
SPB-mica-11 (alteration)	39.50	0.98	4.24	0.05	0.00	30.10	0.05	0.05	9.82	0.01	0.07	0.07	2.13	0.07	0.06	87.20
SPB-mica-12r	40.65	0.07	8.27	0.02	0.06	26.88	0.10	0.02	7.75	0.14	0.00	0.20	8.67	0.23	0.00	93.06
SPB-mica-13r	39.63	2.23	10.67	0.05	0.03	23.52	0.07	0.04	7.96	0.06	0.00	0.25	8.32	0.19	0.07	93.09
I5-10																
I510A-mica-1c	37.31	4.62	17.45	0.11	0.21	20.02	0.04	0.04	5.77	0.11	0.38	0.38	10.32	0.22	0.03	97.01
I510A-mica-1r	36.86	4.47	17.36	0.16	0.22	19.64	0.04	0.05	5.46	0.08	0.19	0.40	10.22	0.09	0.04	95.28
I510A-mica-2c	37.82	4.62	16.52	0.08	0.12	19.90	0.03	0.03	5.62	0.10	0.39	0.46	10.20	0.13	0.05	96.07
I510A-mica-2r	37.76	4.58	16.78	0.07	0.25	20.00	0.09	0.04	5.54	0.09	0.15	0.38	10.25	0.22	0.05	96.25
I510A-mica-3c	37.27	4.66	16.59	0.07	0.22	19.69	0.10	0.03	5.55	0.09	0.39	0.42	10.25	0.19	0.05	95.57
I510A-mica-4c	37.40	4.41	16.90	0.08	0.21	20.39	0.11	0.04	5.71	0.10	0.31	0.38	10.03	0.12	0.03	96.22
I510A-mica-4r	38.45	4.49	16.58	0.11	0.26	20.67	0.10	0.02	5.49	0.10	0.44	0.40	10.27	0.16	0.06	97.60
I510A-mica-9c	37.15	4.53	17.82	0.08	0.05	19.45	0.07	0.03	6.20	0.06	0.15	0.42	10.43	0.13	0.03	96.60
I510A-mica-10c	37.14	4.43	17.80	0.05	0.08	19.36	0.08	0.02	6.12	0.06	0.30	0.46	10.40	0.16	0.02	96.48
I510A-mica-10r	36.54	4.41	17.91	0.13	0.05	19.75	0.06	0.03	6.09	0.06	0.26	0.43	10.22	0.13	0.02	96.09
I510A-mica-15c	39.99	1.25	12.77	0.06	0.02	21.56	0.08	0.04	9.49	0.00	0.00	0.57	9.94	0.25	0.04	96.06
I510A-mica-15r	40.22	1.21	13.03	0.03	0.03	21.50	0.07	0.01	9.30	0.00	0.13	0.59	10.08	0.22	0.03	96.45
I510A-mica-17c	37.16	2.78	16.14	0.12	0.06	12.61	0.06	0.24	16.96	0.02	0.13	0.06	10.32	0.36	0.04	97.06
I510A-mica-17r	37.27	2.57	16.27	0.05	0.03	12.37	0.00	0.21	16.90	0.02	0.04	0.07	10.31	0.24	0.06	96.41
I510A-mica-19c	36.22	5.08	17.83	0.11	0.01	18.51	0.04	0.04	6.70	0.08	0.40	0.47	10.18	0.11	0.03	95.81
I510A-mica-19r	36.19	4.93	17.13	0.11	0.00	18.57	0.14	0.04	6.59	0.06	0.24	0.45	10.18	0.06	0.03	94.72

Table 3.2. continued

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
15-10															
1510A-Ox-5c	0.12	8.22	0.00	0.65	0.10	0.88	2.39	0.10	82.03	0.00	0.06	94.54	50.70	36.41	99.63
1510A-Ox-5r	0.12	8.27	0.04	0.69	0.08	0.97	3.01	0.14	80.78	0.05	0.06	94.23	50.34	35.48	99.25
1510A-Ox-8c	0.13	8.50	0.00	0.83	0.13	0.99	2.42	0.10	80.48	0.02	0.04	93.63	48.87	36.50	98.54
1510A-Ox-8r	0.16	8.54	0.00	0.77	0.12	0.95	2.36	0.08	80.63	0.02	0.05	93.69	48.91	36.62	98.58
1510A-Ox-11c	0.10	7.75	0.00	0.56	0.07	0.88	2.19	0.10	83.08	0.00	0.05	94.77	51.93	36.35	99.98
1510A-Ox-11r	0.12	7.56	0.00	0.59	0.08	0.91	2.23	0.11	82.88	0.00	0.00	94.47	51.95	36.14	99.68
1510A-Ox-12c	0.13	7.79	0.09	0.67	0.06	0.97	2.29	0.11	82.78	0.02	0.02	94.94	51.37	36.56	100.08
1510A-Ox-12r	0.12	7.66	0.00	0.71	0.08	1.02	2.22	0.11	83.30	0.03	0.10	95.35	51.91	36.59	100.55
1510A-Ox-13c	0.14	8.29	0.00	0.55	0.08	0.87	2.22	0.07	82.68	0.09	0.04	95.03	50.94	36.84	100.13
1510A-Ox-13r	0.09	8.00	0.08	0.55	0.11	0.92	2.31	0.06	82.14	0.05	0.10	94.39	50.91	36.33	99.51
1510A-Ox-14c	0.11	7.72	0.03	0.46	0.08	0.88	2.26	0.11	83.09	0.02	0.05	94.83	52.08	36.23	100.03
1510A-Ox-14r	0.06	10.20	0.07	5.52	0.05	0.36	6.03	0.28	72.60	0.05	0.06	95.27	44.60	32.47	99.75
1510A-Ox-16c	0.12	8.28	0.01	0.64	0.09	1.02	2.37	0.09	82.28	0.04	0.05	94.98	50.50	36.84	100.05
1510A-Ox-16r	0.11	8.54	0.02	0.77	0.10	1.00	2.85	0.10	81.28	0.03	0.02	94.83	50.00	36.29	99.83
1510A-Ox-20c	0.10	5.87	0.00	0.62	0.11	0.44	2.50	0.24	84.22	0.00	0.08	94.17	56.67	33.23	99.86
Six-Pak															
SPA-Ox-1c	0.00	5.58	0.00	0.05	16.92	1.47	2.72	0.52	69.41	0.21	0.09	96.96	39.22	34.12	100.90
SPA-Ox-1r	0.03	5.78	0.00	0.05	16.56	1.55	2.70	0.49	68.93	0.18	0.06	96.32	38.41	34.36	100.18
SPA-Ox-2c	0.00	1.91	0.03	0.22	58.21	0.79	6.49	0.99	30.57	0.11	0.23	99.56	7.49	23.83	100.30
SPA-Ox-2r	0.00	2.43	0.02	0.17	56.53	0.73	6.54	0.99	31.64	0.14	0.12	99.31	8.35	24.12	100.15
SPA-Ox-3c	0.03	4.11	0.00	0.00	2.73	1.30	1.70	0.26	84.33	0.06	0.08	94.60	55.87	34.06	100.20
SPA-Ox-3r	0.05	4.14	0.00	0.00	2.69	1.20	1.70	0.23	84.60	0.05	0.07	94.73	56.17	34.05	100.36
SPB-Ox-10c	0.03	5.01	0.00	0.02	16.28	1.63	2.62	0.36	69.77	0.22	0.08	96.02	39.85	33.91	100.01
SPB-Ox-10r	0.04	5.14	0.12	0.03	15.92	1.63	2.57	0.40	70.20	0.20	0.06	96.31	39.87	34.33	100.30
SPB-Ox-19c	0.03	4.82	0.10	0.02	12.92	0.50	2.53	0.32	73.02	0.23	0.08	94.58	45.72	31.88	99.15
SPB-Ox-19r	0.07	5.15	0.09	0.07	12.76	0.46	2.58	0.32	72.85	0.20	0.07	94.62	45.25	32.13	99.15
SPB-Ox-20c	0.02	2.07	0.05	0.00	13.44	0.40	2.45	0.65	75.43	0.22	0.23	94.97	51.53	29.07	100.12
SPB-Ox-20r	0.00	2.08	0.00	0.00	14.16	0.40	2.54	0.57	74.79	0.24	0.16	94.94	50.92	28.97	100.04
Ilmenite															
SPA-Ox-4c	0.03	51.52	0.09	0.52	0.05	0.61	9.35	0.15	36.66	0.09	0.04	99.12	6.86	30.49	99.80
SPA-Ox-4r	0.03	51.87	0.11	0.66	0.05	0.56	9.61	0.13	36.04	0.06	0.03	99.17	6.33	30.34	99.78
SPA-Ox-5c	0.01	44.98	0.86	0.03	0.78	0.48	4.26	0.48	46.60	0.05	0.04	98.56	14.02	33.99	99.97
SPA-Ox-5r	0.01	45.32	0.76	0.03	0.79	0.55	4.25	0.44	46.39	0.09	0.03	98.66	13.41	34.32	100.00
SPA-Ox-8c	0.00	52.36	1.12	0.02	1.64	0.46	9.75	0.62	33.10	0.18	0.03	99.28	2.53	30.82	99.53
SPA-Ox-8r	0.01	52.17	0.99	0.03	1.56	0.47	9.63	0.59	33.49	0.19	0.08	99.20	3.07	30.73	99.52
SPB-Ox-15c	0.00	51.51	0.07	0.41	0.04	0.59	8.42	0.24	37.32	0.05	0.02	98.68	5.90	32.01	99.26
SPB-Ox-15r	0.01	51.34	0.07	0.40	0.04	0.64	8.42	0.24	37.34	0.08	0.04	98.63	6.04	31.91	99.23
SPB-Ox-18c	0.02	49.60	0.53	0.01	0.48	0.64	4.26	0.63	43.59	0.07	0.06	99.88	6.37	37.86	100.53
SPB-Ox-18r	0.00	49.45	0.56	0.00	0.49	0.69	4.17	0.67	43.40	0.03	0.07	99.52	6.04	37.96	100.14

Appendix

Note: E represents exponential notation, e.g., 9E-04 = 9×10^{-4} = 0.0009.

Alpha-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Alpha-1-1	purple	41.266	0.0533	21.2318	3.5449	18.699	5.807	0.5321	8.974	0.028	0.0266	0	100.16
Alpha-1-2	purple	42.156	0.0202	21.3557	3.9206	20.446	4.556	0.4954	7.574	0	0.0318	0.008	100.56
Alpha-1-3	purple	41.837	0.0042	21.1997	4.0581	20.167	4.625	0.5218	8.236	0	0.0192	0.006	100.67
Alpha-1-4	purple	41.648	0.0487	20.663	4.5519	20.056	4.783	0.4682	7.705	0.044	0.0204	0.038	100.03
Alpha-1-5	purple	41.436	0.0417	20.7018	4.391	20.144	4.746	0.5572	7.648	0.028	0.0396	0	99.734
Alpha-1-6	purple	41.669	0.039	22.3185	1.9853	19.088	5.142	0.5552	9.098	0	0.0165	0	99.912
Alpha-1-7	purple	41.764	0.0127	20.9039	4.1249	20.22	4.701	0.4839	7.906	0.001	0.0268	0	100.14
Alpha-1-8	purple	41.792	0.0221	21.1715	3.7681	20.491	4.212	0.5211	7.896	0	0.0308	0.01	99.915
Alpha-1-10	purple	41.266	0.2014	19.468	5.5034	19.268	5.61	0.4593	8.345	0	0.0534	0.015	100.19
Alpha-1-11	purple	41.508	0.0469	20.7264	4.5892	20.056	4.781	0.4603	7.835	0.022	0.0457	0.031	100.1
Alpha-1-12	purple	41.429	0.1811	19.3825	5.8077	19.642	5.42	0.3277	7.493	0	0.0395	0	99.722
Alpha-1-13	purple	41.703	0.0296	22.1597	2.1286	18.873	5.223	0.4972	9.372	0.015	0.0097	0	100.01
Alpha-1-14	purple	41.726	0.0967	20.1032	4.6981	19.981	5.508	0.4195	7.577	0.05	0.0445	0	100.2
Alpha-1-15	purple	41.819	0.0325	22.2953	2.1235	19.124	5.15	0.513	9.069	0	0.0099	0	100.14
Alpha-1-16	purple	41.455	0.2075	20.8424	3.6022	19.801	4.817	0.4225	8.201	0.009	0.0609	0.03	99.449
Alpha-1-17	purple	41.361	0.224	20.174	4.7741	19.973	4.974	0.435	7.737	0	0.0551	0	99.706
Alpha-1-18	purple	41.222	0.1341	18.1604	7.3065	19.714	5.675	0.3656	7.255	0.003	0.0361	0.004	99.874
Alpha-1-19	purple	41.98	0.0696	22.5214	2.0757	19.338	5.129	0.413	9.017	0	0.0148	0.012	100.57
Alpha-1-21	purple	41.763	0.0391	22.2142	2.0746	19.024	5.227	0.5781	9.4	0	0.0085	0	100.33
Alpha-1-22	purple	41.262	0.1876	19.5013	5.6519	19.828	5.217	0.4431	7.625	0	0.0537	0.044	99.814
Alpha-1-23	purple	41.748	0.0033	21.2037	3.6256	20.331	4.575	0.4894	8.058	0.027	0.0179	0	100.08
Alpha-1-24	purple	41.805	0.0132	22.377	2.1885	19.126	5.28	0.4897	8.937	0	0.0048	0.01	100.23
Alpha-1-25	purple	41.795	0.0566	20.0688	4.8206	20.144	5.392	0.3752	7.633	0.037	0.021	0	100.34
Alpha-1-26	purple	41.827	0.0513	22.5506	2.1107	19.336	5.174	0.5232	8.947	0.028	0.0043	9E-04	100.55
Alpha-1-27	purple	42.135	0.0419	22.2347	2.1097	19.231	5.146	0.5532	8.876	0.021	0.0336	0.022	100.4
Alpha-1-28	purple	41.645	0.0696	22.2641	2.1283	19.344	5.053	0.5457	9.02	0.034	0.014	0	100.12
Alpha-1-29	purple	41.109	0.1632	18.5152	6.279	19.319	5.49	0.3516	8.04	0	0.0458	0.007	99.319
Alpha-1-30	purple	41.984	0.0264	22.5181	2.1188	19.198	5.07	0.5433	9.03	0	0	0.02	100.51
Alpha-1-31	purple	41.66	0.0268	20.9833	4.127	20.09	4.699	0.4641	7.477	0.035	0.0237	8E-04	99.587
Alpha-1-32	purple	41.52	0.0484	20.7435	4.2447	20.036	4.798	0.4626	7.583	0	0.0676	0.05	99.554
Alpha-1-33	purple	41.672	0.0362	21.3035	4.0036	20.473	4.506	0.4753	7.755	0.028	0.0276	0.007	100.29
Alpha-1-34	purple	41.336	0.0688	19.129	5.9766	19.234	5.806	0.4854	7.861	0	0.0276	0.012	99.936
Alpha-1-35	purple	41.7	0.212	21.1238	3.4635	20.119	4.777	0.4146	8.27	0.029	0.0421	0.014	100.16
Alpha-1-36	purple	41.075	0.145	18.3811	7.1386	19.8	5.641	0.4249	7.314	0.022	0.0623	0.061	100.06
Alpha-1-37	purple	41.567	0.1927	18.6891	5.9628	19.25	5.501	0.4078	8.113	0.056	0.0896	0.008	99.837
Alpha-1-38	purple	41.348	0.187	18.3156	7.2213	19.705	5.629	0.3799	7.2	0	0.0327	0.031	100.05
Alpha-1-39	purple	41.832	0.0514	22.542	2.0793	19.419	5.284	0.4869	9.183	0	0.0103	0.003	100.89
Alpha-1-40	purple	41.74	0.0132	22.4081	2.021	19.12	5.218	0.515	9.046	0.01	0.018	0.073	100.18
Alpha-1-41	purple	41.462	0.007	20.8834	4.1812	19.91	4.618	0.5075	8.075	0.04	0.0278	0	99.712
Alpha-1-42	purple	41.527	0.0376	21.3224	3.423	18.525	5.791	0.5192	8.7	0.04	0.0567	0.044	99.984
Alpha-1-43	purple	41.247	0.1495	18.3671	7.2932	19.666	5.543	0.3726	7.403	0	0.0329	0.001	100.07
Alpha-1-44	purple	41.581	0.0267	20.5754	4.6283	19.928	4.797	0.53	7.941	0	0.0272	0	100.03
Alpha-1-45	purple	41.409	0.1782	19.2861	5.7667	19.699	5.281	0.4171	7.694	0	0.0426	0.001	99.775
Alpha-1-46	purple	41.114	0.1824	18.96	6.0883	19.207	5.435	0.3939	8.072	0.035	0.081	0.019	99.587
Alpha-1-47	purple	41.283	0.1924	19.0247	6.0621	19.52	5.399	0.4082	8.08	0	0.0109	0	99.98
Alpha-1-48	purple	41.529	0.0451	21.081	3.8456	18.784	5.901	0.5402	8.672	0.015	0.029	0.003	100.44
Alpha-1-49	purple	41.862	0	21.1219	3.6423	20.265	4.401	0.5386	8.266	0	0.0159	0.037	100.15
Alpha-1-50	purple	41.768	0.0264	21.0168	4.097	20.204	4.571	0.5155	8.244	0.012	0.026	0.043	100.52
Alpha-1-51	purple	41.823	0.0405	22.4403	2.0889	19.354	5.238	0.5395	9.227	0.01	0.0209	0	100.78
Alpha-1-52	purple	41.419	0.0427	21.1172	3.732	18.587	5.891	0.5537	8.797	0.003	0.0136	0.009	100.17
Alpha-1-53	purple	41.478	0.042	22.3721	2.1023	19.202	5.146	0.4618	8.952	0.027	0	0.02	99.804
Alpha-1-54	purple	41.74	0.0236	22.4191	1.8973	18.912	5.089	0.4719	9.074	0	0.0358	0.032	99.694
Alpha-1-55	purple	41.888	0.0287	22.3753	2.1414	18.944	5.185	0.5247	9.28	0	0.0068	0.004	100.38
Alpha-1-56	purple	41.738	0.0264	21.3535	3.2734	20.39	4.201	0.5086	7.853	0.005	0.0399	0.005	99.394
Alpha-1-57	purple	41.728	0.0457	22.2749	2.2254	18.907	5.248	0.5703	9.38	0.031	0.005	0.005	100.42
Alpha-1-58	purple	41.343	0.1894	19.272	5.7664	19.722	5.38	0.4056	7.563	0.046	0.0307	0	99.717
Alpha-1-59	purple	41.748	0.063	20.9831	4.2565	20.231	4.75	0.504	7.807	0.007	0.023	0.022	100.39
Alpha-1-60	purple	41.841	0.0533	22.3327	2.0892	19.061	5.293	0.5085	9.104	0.015	0.0066	0	100.3
Alpha-1-61	purple	41.484	0.1722	18.985	6.1829	19.327	5.418	0.4476	8.262	0.029	0.0368	0	100.34
Alpha-1-62	purple	41.922	0.0118	22.2746	2.1382	18.976	5.164	0.5197	9.006	0.044	0.007	0	100.06
Alpha-1-63	purple	41.242	0.0651	19.0601	5.839	19.21	5.769	0.4845	8.039	0.029	0.0158	0.015	99.77
Alpha-1-64	purple	41.532	0.1478	18.3017	7.3045	19.782	5.602	0.449	7.398	0	0.0376	0.008	100.56
Alpha-1-65	purple	42.022	0.0141	20.899	4.4659	20.182	4.772	0.4813	7.591	0	0.0215	0	100.45
Alpha-1-66	purple	41.948	0.0268	20.7715	4.2729	20.087	4.78	0.5084	7.631	0	0.045	0.005	100.08
Alpha-1-67	purple	41.967	0.0122	21.2071	3.745	20.389	4.559	0.5211	7.762	0	0.0146	0	100.18
Alpha-1-68	purple	41.469	0.0273	20.837	4.1218	20.121	4.717	0.497	7.605	0.047	0.0266	0.036	99.504
Alpha-1-69	purple	41.754	0.0353	20.6038	4.357	20.281	4.784	0.4264	7.623	0	0.0273	0.012	99.905
Alpha-1-70	purple	41.597	0.0386	22.3289	2.1378	18.935	5.206	0.5493	9.154	0	0.0187	0.018	99.983
Alpha-1-71	purple	41.516	0.183	19.3765	5.5828	19.573	5.253	0.4046	7.687	0	0.053	0.012	99.64
Alpha-1-72	purple	41.802	0.2403	20.2459	4.3457	20.229	4.833	0.4235	7.888	0.024	0.063	0.02	100.11
Alpha-1-73	purple	41.515	0.2304	20.4509	4.2551	20.499	4.71	0.4249	7.89	0.006	0.0631	0.008	100.05
Alpha-1-74	purple	41.65	0.211	20.2121	4.5748	19.886	4.978	0.4064	7.873	0.044	0.0542	0.005	99.894
Alpha-1-75	purple	41.294	0.1575	18.8954	6.0887	19.268	5.533	0.4352	8.056	0.031	0.0352	0.009	99.804
Alpha-1-76	purple	41.571	0.0321	22.3392	2.1106	18.916	5.155	0.5481	8.922	0.006	0.0511	0	99.651
Alpha-1-77	purple	41.036	0.1905	18.6656	6.779	19.657	5.508	0.4013	7.536	0.044	0.0495	0	99.867

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Alpha-1-78	purple	41.697	0	20.7821	4.243	19.932	4.647	0.5307	8.198	0	0.0133	0	100.04
Alpha-1-80	purple	41.447	0.1834	19.3847	5.5533	19.751	5.241	0.4046	7.679	0.021	0.0367	0.002	99.703
Alpha-1-81	purple	41.824	0.0283	22.493	2.1868	18.855	5.318	0.5919	9.491	0.021	0.0144	0	100.82
Alpha-1-82	purple	41.798	0.0028	21.0981	3.8525	20.287	4.662	0.4718	7.62	0.016	0.027	0	99.834
Alpha-1-83	purple	41.674	0.0415	22.3204	2.1895	19.144	5.169	0.4593	8.785	0	0.0097	0.017	99.809
Alpha-1-84	purple	41.979	0.0255	22.504	2.0697	19.175	5.21	0.5176	9.086	0.025	0.0203	0.012	100.62
Alpha-1-85	purple	41.602	0.0321	22.3682	2.1053	18.955	5.3	0.507	9.183	0.021	0.0056	0.006	100.09
Alpha-1-86	purple	41.674	0.2339	19.9752	4.6914	20.169	4.988	0.4388	8.055	0.007	0.0582	0.041	100.33
Alpha-1-87	purple	41.694	0.0348	20.7348	4.5306	19.979	4.904	0.4815	7.859	0.022	0.0232	0	100.26
Alpha-1-88	purple	41.634	0.032	20.7496	4.3586	20.165	4.848	0.4645	7.564	0.015	0.0194	0.014	99.863
Alpha-1-89	purple	41.684	0.0371	20.9077	4.4291	20.164	4.766	0.5503	7.958	0	0.0245	0	100.52
Alpha-1-90	purple	41.575	0.0169	20.6584	4.3581	20.262	4.748	0.5143	7.82	0	0.0135	0.024	99.99
Alpha-1-91	purple	41.659	0.033	22.4003	2.1755	19.102	5.316	0.6071	9.24	0.037	0.0087	0	100.58
Alpha-1-92	purple	41.475	0.0094	22.3411	2.1203	18.935	5.325	0.5271	9.178	0	0.0176	0	99.929
Alpha-1-93	purple	41.325	0.1724	18.9924	6.3664	19.328	5.585	0.4299	8.094	0	0.0381	0.03	100.36
Alpha-1-94	purple	41.879	0.0372	22.1922	2.0331	18.817	5.206	0.5382	9.212	0	0.0108	0	99.925
Alpha-1-95	purple	41.875	0.0094	21.3758	3.9394	20.523	4.673	0.4737	7.778	0.033	0.0339	0.007	100.72
Alpha-1-96	purple	41.453	0.0584	21.1905	3.6472	18.741	5.773	0.5312	8.587	0	0.0177	0.017	100.02
Alpha-1-98	purple	41.425	0.1996	19.4473	5.6162	19.741	5.332	0.3923	7.648	0	0.0338	0	99.836
Alpha-1-99	purple	41.867	0.0132	20.7364	4.4297	20.096	4.792	0.5046	7.743	0	0.0292	0	100.21
Alpha-1-100	purple	41.54	0.0677	19.4015	5.8922	19.182	5.668	0.417	8.055	0	0.0137	0	100.24
Alpha-1-101	purple	41.549	0.1878	19.5661	5.6963	19.845	5.288	0.3764	7.723	0.003	0.0369	0	100.27
Alpha-1-102	purple	41.472	0.1827	19.3382	5.8959	19.697	5.416	0.3826	7.481	0	0.0332	0.016	99.914
Alpha-1-103	purple	41.955	0.047	20.7326	4.7288	20.174	4.947	0.5381	7.814	0.041	0.0428	0	101.02
Alpha-1-104	purple	41.964	0.0316	22.5243	1.8564	19.208	5.101	0.5107	8.971	0	0	0	100.17
Alpha-1-105	purple	41.561	0.1828	19.3505	5.6325	19.818	5.314	0.4435	7.529	0	0.0257	0.018	99.875
Alpha-1-106	purple	41.815	0.0198	22.4564	2.1598	19.07	5.241	0.557	9.294	0.01	0.0245	0	100.65
Alpha-1-107	purple	41.912	0.0085	21.389	3.7747	20.236	4.475	0.5343	8.147	0.027	0.0232	0	100.53
Alpha-1-108	purple	41.496	0.0372	21.2205	3.5671	18.555	5.887	0.5989	8.943	0	0.0107	0	100.32
Alpha-1-109	purple	40.527	0.5487	16.2321	8.7672	17.679	6.296	0.4252	9.455	0	0.0707	0	100
Alpha-1-110	purple	41.667	0	21.0695	4.167	19.818	4.646	0.5692	8.311	0	0.0272	0.01	100.29
Alpha-1-111	purple	41.799	0.0269	20.9728	4.2204	20.179	4.72	0.4667	7.833	0	0.0338	0.019	100.27
Alpha-1-112	purple	41.576	0.193	19.5522	5.6129	19.799	5.328	0.4149	7.831	0	0.0274	0.006	100.34
Alpha-1-113	purple	41.691	0.0188	20.7986	4.2595	20.074	4.734	0.4876	7.638	0.028	0.0416	0.024	99.794
Alpha-1-114	purple	41.78	0	20.9379	4.1817	20.007	4.54	0.5443	8.166	0	0.0347	0.056	100.25
Alpha-1-115	purple	41.813	0.034	21.1909	3.8249	20.376	4.583	0.5281	7.523	0.007	0.0188	0	99.898
Alpha-1-116	purple	41.592	0.1809	19.5529	5.5636	20.186	5.301	0.4222	7.523	0	0.0446	0.004	100.37
Alpha-1-117	purple	41.755	0.0429	21.2593	3.7659	20.369	4.344	0.5996	8.019	0	0.0238	0.002	100.18
Alpha-1-118	purple	41.549	0.2014	19.8976	4.9761	19.717	5.117	0.4594	7.899	0.008	0.0828	0.02	99.927
Alpha-1-119	purple	41.511	0.0765	19.3763	5.8709	19.398	5.74	0.4571	8.052	0	0.0147	0	100.5
Alpha-1-120	purple	41.833	0.2559	20.4733	4.214	20.067	4.878	0.4752	7.842	0	0.079	0.018	100.13
Alpha-1-121	purple	42.062	0.0264	21.0569	4.2818	20.404	4.711	0.4939	7.759	0.003	0.0259	0.008	100.83
Alpha-1-122	purple	41.807	0.025	22.3856	2.0509	19.163	5.198	0.5685	9.292	0.006	0.0249	0.01	100.53
Alpha-1-123	purple	41.982	0.0458	21.081	3.7261	20.397	4.586	0.4388	7.495	0	0.0286	0.013	99.793
Alpha-1-124	purple	41.751	0.0608	20.6276	4.5625	20.075	4.857	0.4132	7.703	0	0.0317	0.023	100.1
Alpha-1-125	purple	41.841	0.0326	22.2339	2.1313	18.837	5.291	0.5711	9.382	0.006	0.024	0	100.35
Alpha-1-126	purple	42.063	0.0071	22.4044	2.3487	20.88	3.902	0.4367	8.023	0	0.0104	0	100.08
Alpha-1-127	purple	42.077	0.0401	20.839	4.3059	20.397	4.73	0.4741	7.766	0.022	0.0445	0.059	100.75
Alpha-1-128	purple	41.224	0.1641	18.9493	6.2879	19.429	5.453	0.3865	8.257	0.03	0.0392	0.006	100.22
Alpha-1-129	purple	41.311	0.1877	18.3559	7.0782	19.593	5.652	0.4135	7.134	0.037	0.0425	0.019	99.824
Alpha-1-130	purple	41.753	0.2142	20.9811	3.5742	19.845	4.783	0.4402	8.153	0.056	0.0423	0.005	99.848
Alpha-1-131	purple	41.656	0.2229	20.9137	3.4637	20.079	4.674	0.4357	8.382	0.031	0.0444	0	99.902
Alpha-1-132	purple	42.137	0.0438	20.859	4.5977	20.385	4.781	0.5176	7.987	0	0.0378	0	101.35
Alpha-1-133	purple	41.443	0.0137	22.2749	2.2078	18.633	5.363	0.5362	9.601	0	0.0117	0	100.08
Alpha-1-134	purple	41.228	0.1788	19.395	5.7552	19.38	5.359	0.539	8.207	0	0.0362	0	100.08
Alpha-1-135	purple	41.537	0.1881	19.2608	5.7012	19.708	5.304	0.3914	7.688	0	0.0383	0	99.817
Alpha-1-136	purple	41.648	0.0265	22.1916	2.1841	19.175	5.169	0.589	9.28	0.039	0.0027	0.009	100.31
Alpha-1-137	purple	41.66	0.2021	19.3542	5.845	19.753	5.39	0.3532	7.654	0.01	0.0387	0	100.26
Alpha-1-138	purple	41.786	0.0553	22.3058	2.0294	19.112	5.236	0.4758	9.037	0.027	0.0127	0	100.08
Alpha-1-139	purple	41.678	0.2735	19.4363	5.5967	20.05	5.229	0.4498	7.338	0	0.0382	0	100.09
Alpha-1-140	purple	41.731	0.0447	20.6736	4.5173	20.127	4.844	0.4568	7.893	0.056	0.0285	0	100.37
Alpha-1-142	purple	41.589	0.008	22.0485	2.2265	18.487	5.059	0.5517	9.949	0	0.0149	0	99.934
Alpha-1-143	purple	41.458	0.2497	19.8673	5.0988	19.704	5.176	0.414	8.012	0.027	0.0406	0	100.05
Alpha-1-144	purple	41.652	0.0383	22.3597	2.0813	18.948	5.274	0.5322	9.276	0.013	0.0067	0.029	100.21
Alpha-1-145	purple	40.143	0.5075	14.2999	11.4591	17.169	6.873	0.4793	8.96	0	0.0873	0.05	100.03
Alpha-1-146	purple	41.44	0.1854	18.8324	5.9582	19.375	5.432	0.3981	8.157	0.003	0.0211	0.018	99.818
Alpha-1-147	purple	41.828	0.0165	22.4668	2.1455	18.853	5.178	0.6169	9.493	0.022	0.0086	0.005	100.63
Alpha-1-148	purple	41.722	0.1893	19.1989	5.974	19.648	5.494	0.462	8.237	0.03	0.028	0	100.98
Alpha-1-149	purple	41.901	0.0137	21.0797	4.2992	20.271	4.868	0.4671	7.764	0	0.0217	0.025	100.71
Alpha-1-150	purple	41.814	0.026	20.882	4.0611	20.123	4.523	0.4168	7.537	0	0.0291	0.036	99.448
Alpha-1-151	purple	41.837	0.0548	22.5552	2.1584	19.423	5.163	0.5667	9.262	0.009	0.0166	0	101.05
Alpha-1-152	purple	41.937	0.1548	19.6808	5.4886	20.079	5.24	0.4058	7.499	0.016	0.0336	0	100.53
Alpha-1-153	red	41.781	0.3796	18.8845	5.2866	20.499	4.984	0.328	8.041	0.018	0.0615	0.041	100.3
Alpha-1-154	red	41.852	0.4261	20.8582	3.2457	19.862	4.405	0.385	9.142	0	0.072	0	100.25
Alpha-1-155	red	41.668	0.4365	20.7256	3.2631	19.874	4.374	0.4001	9.125	0.083	0.0724	0.003	100.02

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Alpha-1-158	orange	39.236	0.071	22.0547	0.1105	9.611	5.553	0.5996	23.2	0	0.0037	0.007	100.44
Alpha-1-161	orange	41.737	0.3977	22.2137	1.147	19.627	3.612	0.5134	10.68	0.018	0.0794	0	100.03
Alpha-1-163	red	41.295	0.1766	18.8235	6.2621	19.347	5.558	0.4265	8.217	0.05	0.0292	0	100.18
Alpha-1-164	red	42.061	0.607	19.9494	3.4317	20.843	4.605	0.3895	8.101	0.021	0.0638	0	100.07
Alpha-1-165	red	41.203	0.1584	19.366	5.6558	19.211	5.653	0.4944	8.289	0.012	0.0263	0.026	100.09
Alpha-1-166	red	41.558	0.1605	19.5284	5.5816	20.112	5.325	0.3932	7.808	0	0.0349	0	100.5
Alpha-1-167	red	41.545	0.1647	19.4524	5.4678	19.917	5.297	0.3915	7.75	0.022	0.0474	0	100.05
Alpha-1-168	red	41.846	0.2171	21.0313	3.5705	20.081	4.847	0.4136	8.287	0	0.0398	0	100.33
Alpha-1-169	red	41.627	0.5083	21.3426	2.024	19.649	4.058	0.4105	10.21	0	0.087	0.017	99.934
Alpha-1-170	red	41.557	0.4727	21.3838	2.0378	19.679	4.004	0.4385	9.997	0.028	0.0983	0.027	99.722
Alpha-1-171	red	41.265	0.4394	20.8275	3.3363	19.954	4.401	0.3847	9.288	0	0.0756	0.01	99.982
Alpha-1-172	red	41.728	0.0052	21.2437	3.6589	20.112	4.524	0.5313	8.046	0	0.0114	0	99.86
Alpha-1-173	red	41.857	0.2419	20.3733	4.5781	20.101	4.946	0.3737	7.807	0	0.0457	0	100.32
Alpha-1-174	red	41.343	1.3165	19.0346	3.3356	18.561	6.33	0.537	9.757	0.019	0.138	0.025	100.4
Alpha-1-175	red	41.892	0.459	21.6643	2.1325	19.632	4.552	0.4858	9.699	0.034	0.0903	0	100.64
Alpha-1-176	red	42.186	0.5335	19.8814	3.4097	20.805	4.691	0.33	8.146	0.008	0.0663	0	100.06
Alpha-1-177	red	41.749	0.052	22.4911	2.0589	19.229	5.164	0.527	9.249	0	0.0027	0.002	100.53
Alpha-1-178	red	40.984	0.2096	18.9333	6.0124	19.398	5.507	0.4635	7.984	0.058	0.0384	0.026	99.613
Alpha-1-180	red	41.834	0.5195	21.5068	2.0762	19.715	4.085	0.4839	10.05	0.058	0.0998	0	100.43
Alpha-1-181	orange	41.775	0.4601	21.8162	1.6931	19.841	3.767	0.4585	10.61	0.028	0.0855	0	100.53
Alpha-1-197	purple	41.524	0.0398	20.8951	3.9382	20.226	4.378	0.5339	8.267	0.046	0.027	0	99.874
Alpha-1-198	purple	41.755	0.0285	21.0255	3.9795	20.471	4.27	0.5631	8.213	0.009	0.031	0	100.34
Alpha-1-199	purple	41.64	0	20.491	4.5846	20.204	4.973	0.4948	7.646	0.03	0.0352	0	100.1
Alpha-1-200	purple	41.882	0.0263	22.3587	2.0006	19.376	5.211	0.5161	9.083	0	0.0133	0	100.47
Alpha-1-201	purple	41.807	0.0164	21.15	3.8197	20.596	4.72	0.53	7.594	0	0.0198	0	100.25
Alpha-1-202	purple	41.825	0.0155	20.8561	4.0618	20.454	4.727	0.4482	7.72	0.013	0.0273	0	100.15
Alpha-1-203	purple	41.944	0.0197	22.4506	2.0294	19.39	5.277	0.5144	9.082	0	0.009	0.002	100.72
Alpha-1-205	purple	41.763	0.0192	20.6577	4.4579	20.296	4.747	0.4885	7.783	0	0.0355	0	100.25
Alpha-1-206	purple	41.361	0.199	18.5976	6.0507	19.626	5.451	0.4302	8	0.042	0.0361	0	99.794
Alpha-1-207	purple	41.711	0.0318	20.552	4.3732	20.047	4.766	0.4928	7.821	0	0.0165	0.072	99.882
Alpha-1-208	purple	41.844	0.0809	19.8858	4.8373	20.249	5.446	0.3763	7.487	0	0.0189	0	100.23
Alpha-1-209	purple	41.974	0.0285	20.7606	4.323	20.436	4.826	0.552	7.81	0.009	0.0289	0.013	100.76
Alpha-1-210	purple	42.042	0.0061	20.9161	4.3144	20.356	4.805	0.4844	7.997	0.029	0.0279	0	100.98
Alpha-1-211	purple	41.961	0.0544	22.5222	2.0484	19.483	5.322	0.492	9.124	0	0.0135	0	101.02
Alpha-1-212	purple	41.886	0.0206	21.201	3.7332	20.481	4.499	0.5367	8.181	0	0.0308	0	100.57
Alpha-1-213	purple	41.832	0.0332	20.6988	4.2341	20.154	4.791	0.4996	8.399	0.035	0.0134	0.007	100.7
Alpha-1-214	purple	41.981	0.0446	22.2154	2.1511	19.199	5.227	0.5314	8.94	0.007	0	0	100.3
Alpha-1-215	purple	42.022	0.0211	20.9334	4.0994	20.459	4.481	0.4944	7.937	0.038	0.0283	0.021	100.53
Alpha-1-216	purple	41.616	0.0407	20.4744	4.6176	20.225	4.915	0.5421	7.653	0.04	0.0206	0	100.14
Alpha-1-217	purple	41.577	0.0365	20.6256	3.9866	20.307	4.731	0.4794	7.516	0.009	0.0267	0.004	99.297
Alpha-1-218	purple	41.698	0.1944	19.6289	5.4601	20.061	5.157	0.4044	7.571	0	0.0347	0	100.21
Alpha-1-219	purple	41.125	0.1807	18.745	6.1644	19.474	5.574	0.4174	8.318	0.015	0.0613	0.004	100.08
Alpha-1-226	red	41.544	0.4767	21.1738	2.0655	19.67	4.091	0.4255	10.3	0.012	0.0868	0	99.842
Alpha-1-227	red	41.464	0.47	20.4987	3.2819	19.824	4.529	0.3567	9.419	0	0.0716	0.005	99.919
Alpha-1-228	red	42.335	0.4943	21.6644	2.0162	19.907	4.209	0.42	10.59	0	0.0902	0	101.72
Alpha-1-229	red	41.69	0.5113	21.3842	2.0829	19.873	4.095	0.4483	10.15	0	0.1027	0	100.34
Alpha-1-230	red	41.857	0.1898	21.6787	2.2232	20.368	4.637	0.397	8.71	0.065	0.0246	0	100.15
Alpha-1-231	purple	41.452	0.4619	21.3076	2.1053	19.793	4.138	0.4904	10.21	0.012	0.1091	0	100.08
Alpha-1-232	purple	41.774	0	22.1839	2.0631	19.29	5.149	0.5247	8.954	0.019	0.0128	0	99.97
Alpha-1-233	purple	41.896	0.1587	21.7796	2.3341	20.271	4.48	0.3815	8.58	0.062	0.0442	0	99.986
Alpha-1-234	purple	41.816	0.0258	22.093	2.1975	19.264	5.251	0.4895	9.172	0.016	0.0017	0	100.33
Alpha-1-235	purple	41.465	0.184	19.2238	5.7232	19.721	5.357	0.4155	7.568	0	0.0197	0.008	99.686
Alpha-1-236	purple	42.005	0.0498	22.2598	2.0621	19.318	5.192	0.5176	9.055	0.031	0.0148	0	100.51
Alpha-1-237	purple	41.674	0.0267	22.1047	2.0673	18.992	5.179	0.5692	9.454	0	0.0136	0	100.08
Alpha-1-238	purple	41.51	0.0282	22.1317	2.1794	19.395	5.239	0.5357	9.038	0	0.0054	0	100.06
Alpha-1-239	purple	41.594	0.0393	20.7362	4.188	20.341	4.424	0.5085	8.278	0	0.0221	0.007	100.14

Alpha-1 Chromite

Sample	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Alpha-1-1	0.035	0.747	0	0.057	10.328	48.757	0.03	8.65	0.058	0.207	28.918	0.139	0.157	98.083	9.624115	20.26	99.047
Alpha-1-2	0.003	0.344	0	0.054	10.64	55.574	0.23	10.947	0	0.135	20.721	0.163	0.131	98.942	4.111096	17.02	99.354
Alpha-1-3	0	1.116	0	0.015	5.202	54.692	0.21	8.388	0.076	0.357	28.074	0.188	0.225	98.543	8.697454	20.25	99.414
Alpha-1-4	0.02	0.319	0.024	0	10.737	56.031	0.35	10.778	0.021	0.296	20.44	0.082	0.213	99.311	3.375021	17.4	99.649
Alpha-1-5	0.012	0.516	0.015	0	9.805	55.341	0.32	9.807	0	0.284	23.084	0.075	0.234	99.493	4.585838	18.96	99.952
Alpha-1-6	0.025	0	0.027	0.018	10.982	55.216	0.38	10.853	0.068	0.295	21.487	0.095	0.277	99.723	4.837575	17.13	100.21
Alpha-1-7	0.023	0.732	0.019	0	12.669	41.466	0.17	8.24	0.042	0.471	34.275	0.247	0.178	98.532	14.43193	21.29	99.978
Alpha-1-8	0.009	0.138	0.006	0	10.049	54.973	0.31	9.539	0.074	0.456	24.433	0.082	0.316	100.39	6.032967	19	100.99
Alpha-1-9	0.036	1.09	0	0.003	5.309	54.739	0.18	8.552	0.029	0.576	28.047	0.148	0.232	98.941	8.959879	19.98	99.839
Alpha-1-10	0.036	1.152	0	0	1.666	60.779	0.14	7.982	0.049	0.355	26.602	0.127	0.158	99.046	6.715693	20.56	99.719
Alpha-1-11	0.14	0.151	0.019	0	19.171	40.451	0.25	13.411	0.026	0.308	24.563	0.252	0.105	98.847	11.24483	14.44	99.974
Alpha-1-14	0.059	1.161	0.036	0.051	6.558	58.037	0.25	11.088	0.038	0.196	21.245	0.217	0.151	99.087	4.811267	16.92	99.569
Alpha-1-16	0.019	0.311	0	0.041	9.956	56.232	0.36	10.7	0.12	0.239	21.361	0.065	0.173	99.577	4.295804	17.5	100.01
Alpha-1-17	0	0.021	0	0	14.725	49.027	0.28	9.709	0	0.394	24.609	0.136	0.209	99.11	6.121554	19.1	99.723
Alpha-1-18	0.001	0.239	0	0	7.784	55.276	0.27	9.304	0.01	0.253	25.585	0.168	0.164	99.054	7.37162	18.95	99.793
Alpha-1-21	0	0.075	0	0	15.115	52.042	0.28	11.365	0.006	0.253	20.776	0.065	0.099	100.08	3.91402	17.25	100.47
Alpha-1-22	0.017	1.6	0.008	0.03	1.321	54.512	0.5	7.198	0.059	0.367	32.709	0.099	0.152	98.572	11.2373	22.6	99.698
Alpha-1-23	0.027	1.308	0	0	1.694	62.744	0.18	8.363	0.057	0.477	24.353	0.125	0.008	99.336	4.575452	20.24	99.794
Alpha-1-24	0.021	1.677	0.004	0.005	1.334	54.587	0.52	7.247	0.008	0.46	32.712	0.146	0.102	98.823	11.16935	22.66	99.942
Alpha-1-25	0.042	1.048	0	0	7.173	57.311	0.37	10.558	0.038	0.35	22.571	0.098	0	99.559	4.987355	18.08	100.06
Alpha-1-26	0.006	0.854	0.001	0	12.886	48.548	0.5	9.479	0.051	0.108	26.162	0.091	0.214	98.9	6.328883	20.47	99.534
Alpha-1-27	0.017	1.057	0.041	0	0.772	59.017	0.51	7.063	0.033	0.375	29.881	0.159	0.118	99.043	8.356886	22.36	99.88
Alpha-1-28	0.004	0.136	0	0.003	15.42	50.756	0.19	11.328	0	0.143	21.643	0.152	0.094	99.869	4.862533	17.27	100.36
Alpha-1-30	0.004	0.089	0	0	14.994	53.714	0.33	11.642	0	0.374	18.411	0.062	0.161	99.781	2.000557	16.61	99.981
Alpha-1-31	0.009	1.72	0.003	0.035	3.279	54.322	0.28	8.12	0.029	0.765	29.813	0.102	0.098	98.575	9.897754	20.91	99.567
Alpha-1-32	0.031	0.576	0.001	0.013	4.875	56.212	0.42	9.311	0.072	0.394	27.046	0.112	0.177	99.24	8.966049	18.98	100.14
Alpha-1-33	0.007	1.15	0.004	0	8.243	55.372	0.3	10.168	0.035	0.467	23.124	0.212	0.215	99.297	5.373101	18.29	99.835
Alpha-1-35	0.03	0.327	0	0	10.374	56.821	0.25	10.932	0.007	0.302	20.561	0.109	0.174	99.887	3.775978	17.16	100.27
Alpha-1-36	0	0.033	0.009	0.046	14.956	51.998	0.27	11.142	0	0.116	20.599	0.146	0.268	99.583	3.671706	17.3	99.951
Alpha-1-37	0.003	0.526	0.005	0.014	6.086	55.153	0.34	9	0.051	0.557	26.786	0.066	0.159	98.746	8.432755	19.2	99.591
Alpha-1-38	0	0.075	0.027	0	15.567	50.317	0.25	10.904	0.031	0.336	21.262	0.108	0.169	99.046	4.219515	17.47	99.469
Alpha-1-39	0.008	1.104	0	0.058	5.329	59.185	0.17	9.512	0.052	0.225	23.479	0.148	0.164	99.434	4.99462	18.98	99.934
Alpha-1-40	0	0.094	0.042	0.005	19.217	48.763	0.13	12.657	0.021	0.106	18.092	0.11	0.165	99.402	2.835426	15.54	99.686
Alpha-1-41	0.043	1.863	0.046	0.001	4.633	59.279	0.25	10.691	0.08	0.231	22.229	0.112	0.011	99.469	4.6073	18.08	99.931
Alpha-1-43	0.018	2.729	0	0	5.059	51.685	0.39	9.201	0.07	0.114	28.824	0.164	0.135	98.389	8.652831	21.04	99.256
Alpha-1-44	0.006	0.194	0	0	10.908	58.425	0.15	11.751	0.009	0.331	17.302	0.104	0.115	99.295	2.008265	15.49	99.496
Alpha-1-45	0.005	0.048	0.026	0.048	10.621	55.128	0.27	10.244	0.016	0.227	22.68	0.044	0.125	99.482	5.073517	18.11	99.99
Alpha-1-46	0.026	0.144	0.019	0	7.671	57.748	0.17	8.519	0	0.311	24.159	0.08	0.3	99.147	4.792864	19.85	99.627
Alpha-1-47	0.021	0.672	0	0	3.468	54.785	0.43	7.752	0.087	0.404	30.801	0.102	0.079	98.601	10.75644	21.12	99.679
Alpha-1-48	0.005	0.291	0	0	10.023	57.177	0.25	10.918	0.033	0.246	20.114	0.063	0.158	99.278	3.516624	16.95	99.63
Alpha-1-49	0.028	0.095	0	0	14.896	49.923	0.22	10.829	0.007	0.441	22.719	0.08	0.196	99.434	5.765119	17.53	100.01

Alpha-1 Ilmenite

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
Alpha-1-1	core	0.031	51.8	0.12	0	0.16	3.01	0	10.45	0.025	0.35	32.844	0.149	0.112	99.06	5.94	27.5	99.65	56.36	38.17	5.48	100
Alpha-1-2	core	0	49.74	0.16	0.0168	0.01	2.61	0.04	8.63	0.035	0.46	36.762	0.086	0	98.555	8.61	29	99.42	60.10	31.86	8.04	100
Alpha-1-3	core	0.0167	46.29	0.25	0	0.07	2.84	0.24	7.13	0.026	0.37	41.071	0.127	0	98.427	13.36	29	99.77	60.81	26.61	12.58	100
Alpha-1-5	core	0.0002	49.97	0.23	0.0103	0.01	2.95	0.07	8.96	0	0.37	36.259	0.148	0	98.989	8.27	28.8	99.82	59.41	32.92	7.68	100
Alpha-1-6	core	0.0302	52.67	0.12	0	0.06	2.28	0.07	10.75	0.017	0.27	32.297	0.124	0	98.691	4.68	28.1	99.16	56.92	38.81	4.27	100
Alpha-1-7	core	0.0075	52.82	0.08	0.0297	0.16	2.14	0.07	10.55	0.046	0.32	32.521	0.152	0	98.885	4.59	28.4	99.34	57.62	38.17	4.21	100
Alpha-1-8	core	0.0005	52.9	0.09	0	0.23	2.48	0	11.57	0.012	0.30	31.13	0.122	0	98.835	5.02	26.6	99.34	53.78	41.66	4.56	100
Alpha-1-9	core	0.005	50.3	0.13	0	0.03	2.71	0.18	9.87	0.039	0.35	34.73	0.167	0.056	98.561	8.09	27.5	99.37	56.39	36.14	7.47	100
Alpha-1-10	core	0.0171	53.19	0.05	0.0569	0.28	2.44	0	11.59	0.011	0.35	31.028	0.147	0	99.16	4.72	26.8	99.63	53.99	41.69	4.32	100
Alpha-1-11	core	0.0158	49.57	0.19	0.0252	0.06	2.74	0.13	8.56	0	0.38	36.789	0.054	0	98.513	8.28	29.3	99.34	60.70	31.57	7.73	100
Alpha-1-12	core	0.0088	52.97	0.07	0	0.26	2.15	0	11.00	0.001	0.42	31.902	0.086	0	98.858	4.76	27.6	99.33	55.96	39.70	4.34	100
Alpha-1-13	core	0.0275	49.5	0.17	0	0.06	2.76	0.27	8.69	0.052	0.29	36.686	0.058	0	98.563	8.25	29.3	99.39	60.39	31.95	7.66	100
Alpha-1-14	core	0.0094	52.84	0.04	0.0265	0.21	2.06	0.14	10.81	0	0.36	32.116	0.105	0	98.705	4.48	28.1	99.15	56.88	39.02	4.10	100
Alpha-1-15	core	0.0162	49.91	0.14	0.0032	0.00	2.64	0	8.74	0.009	0.41	36.534	0.002	0.175	98.593	8.49	28.9	99.44	59.83	32.26	7.91	100
Alpha-1-16	core	0.0168	53.15	0.09	0	0.19	2.16	0.02	11.24	0.004	0.29	31.611	0.093	0	98.86	4.54	27.5	99.32	55.49	40.39	4.12	100
Alpha-1-17	core	0.0014	50.01	0.17	0	0.00	2.59	0	8.82	0	0.41	36.586	0.162	0.098	98.851	8.68	28.8	99.72	59.45	32.48	8.07	100
Alpha-1-18	core	0.0098	51.34	0.12	0.0271	0.08	2.79	0	10.01	0.003	0.31	33.846	0.138	0.032	98.687	6.48	28	99.34	57.43	36.57	6.00	100
Alpha-1-19	core	0	49.77	0.17	0	0.00	2.84	0.39	9.19	0	0.38	35.377	0.127	0.045	98.288	7.50	28.6	99.04	59.17	33.85	6.98	100
Alpha-1-20	core	0	48.36	0.14	0.0633	0.00	3.01	0.28	8.08	0	0.38	38.063	0.099	0.024	98.51	9.84	29.2	99.50	60.74	30.00	9.26	100
Alpha-1-21	core	0.0133	53.47	0.07	0	0.11	2.85	0	10.24	0.035	0.20	33.287	0.172	0	100.46	4.20	29.5	100.88	59.42	36.77	3.81	100
Alpha-1-22	core	0.0129	51.93	0.06	0.0278	0.07	2.77	0.02	10.37	0.013	0.31	33.227	0.122	0	98.932	5.91	27.9	99.52	56.88	37.68	5.44	100
Alpha-1-23	core	0.0066	47.97	0.18	0.0749	0.01	3.31	0.22	8.03	0.066	0.44	38.179	0.002	0.008	98.495	10.34	28.9	99.53	60.28	29.94	9.78	100
Alpha-1-24	core	0.0186	50.1	0.16	0.0032	0.05	2.81	0.03	9.11	0	0.38	35.741	0.07	0	98.465	7.92	28.6	99.26	59.12	33.52	7.36	100
Alpha-1-25	core	0.029	55.36	0.09	0	0.29	2.39	0	11.18	0.035	0.27	31.393	0.12	0	101.16	2.03	29.6	101.36	58.66	39.52	1.82	100
Alpha-1-26	core	0.0095	49.94	0.14	0.011	0.02	2.72	0.12	8.92	0.005	0.36	36.036	0.042	0.101	98.435	7.96	28.9	99.23	59.69	32.89	7.42	100
Alpha-1-27	core	0.0168	51.33	0.05	0.0639	0.10	2.83	0.09	10.03	0.017	0.36	33.879	0.108	0.048	99.425	6.00	28.5	100.03	58.01	36.44	5.55	100
Alpha-1-28	core	0	45.22	0.28	0.0654	0.00	1.34	0.19	5.94	0.009	0.40	44.667	0.095	0.055	98.242	16.11	30.2	99.86	62.80	22.05	15.15	100
Alpha-1-29	core	0.0159	48.35	0.26	0.0381	0.09	2.96	0.12	8.18	0.06	0.33	38.142	0.097	0.016	98.666	10.27	28.9	99.70	60.04	30.32	9.64	100
Alpha-1-30	core	0.0073	49.94	0.17	0	0.03	2.75	0.13	9.12	0.014	0.44	35.862	0.033	0	98.508	8.11	28.6	99.32	58.92	33.54	7.53	100
Alpha-1-31	core	0	50.15	0.16	0.0563	0.02	3.13	0.1	9.39	0.034	0.41	35.272	0.054	0.172	98.96	8.00	28.1	99.76	57.93	34.59	7.48	100
Alpha-1-32	core	0	49.57	0.12	0.0155	0.01	2.67	0.04	8.62	0.002	0.43	36.49	0.136	0.103	98.208	8.60	28.7	99.07	59.90	32.02	8.08	100
Alpha-1-33	core	0.0063	48.3	0.18	0.0065	0.09	2.95	0.08	8.20	0.017	0.40	38.074	0.051	0.04	98.387	10.49	28.6	99.44	59.70	30.46	9.84	100
Alpha-1-34	core	0.0112	50.11	0.17	0.0414	0.06	2.62	0.08	8.98	0.065	0.32	35.951	0.152	0.109	98.662	7.99	28.8	99.46	59.44	33.10	7.47	100
Alpha-1-35	core	0.0183	51.45	0.08	0.053	0.06	3.13	0.26	10.41	0	0.30	33.111	0.108	0	98.979	5.81	27.9	99.56	56.80	37.83	5.37	100
Alpha-1-36	core	0.0122	49.43	0.17	0	0.00	2.77	0.15	8.63	0	0.36	36.782	0.059	0.04	98.398	8.59	29.1	99.26	60.17	31.83	8.00	100
Alpha-1-37	core	0.0093	51.93	0.09	0.0213	0.12	2.93	0	10.23	0.018	0.27	33.421	0.108	0.125	99.266	5.94	28.1	99.86	57.32	37.21	5.47	100
Alpha-1-38	core	0.0044	48.85	0.17	0.0641	0.07	2.70	0.29	9.45	0.034	0.50	36.128	0.071	0	98.336	9.96	27.2	99.33	55.96	34.74	9.29	100
Alpha-1-39	core	0.0133	52.95	0.10	0.0265	0.36	2.45	0	11.48	0.032	0.35	30.591	0.13	0	98.483	4.25	26.8	98.91	54.45	41.65	3.91	100
Alpha-1-40	core	0.0204	49.32	0.16	0.0071	0.02	2.61	0.21	8.41	0	0.37	37.372	0.09	0.058	98.652	8.86	29.4	99.54	60.77	30.98	8.25	100
Alpha-1-41	core	0	49.75	0.18	0.051	0.00	2.61	0.16	8.69	0	0.49	36.579	0.138	0.045	98.708	8.36	29.1	99.55	60.09	32.08	7.83	100
Alpha-1-42	core	0.0095	50.2	0.15	0.0142	0.00	2.77	0.09	9.11	0.003	0.49	35.969	0.143	0	98.947	8.19	28.6	99.77	58.93	33.47	7.61	100
Alpha-1-43	core	0.0146	51.15	0.09	0.0058	0.08	2.83	0	10.03	0.003	0.38	33.832	0.108	0.04	98.567	6.80	27.7	99.25	56.96	36.75	6.29	100
Alpha-1-44	core	0.0001	50.11	0.11	0	0.12	2.81	0.16	9.13	0.004	0.30	35.665	0.093	0.008	98.495	7.67	28.8	99.26	59.33	33.55	7.12	100
Alpha-1-45	core	0.0004	49.42	0.20	0.0369	0.04	2.82	0.22	8.65	0	0.42	36.699	0.075	0.132	98.706	8.55	29	99.56	60.07	31.94	7.99	100
Alpha-1-46	core	0.0124	51.46	0.11	0.0155	0.04	2.69	0.03	10.03	0.013	0.41	33.698	0.177	0.05	98.73	6.38	28	99.37	57.40	36.69	5.90	100
Alpha-1-47	core	0.0183	48.12	0.18	0.0168	0.06	3.19	0	7.72	0	0.38	38.36	0.118	0	98.157	10.14	29.2	99.17	61.45	28.94	9.61	100
Alpha-1-48	core	0.0241	50.97	0.16	0	0.05	2.51	0.15	9.68	0.041	0.27	34.436	0.01	0	98.305	6.38	28.7	98.94	58.78	35.34	5.88	100
Alpha-1-49	core	0.006	49.21	0.08	0.0304	0.01	2.96	0.22	8.60	0.041	0.37	36.771	0.037	0.032	98.369	8.74	28.9	99.24	60.00	31.82	8.18	100
Alpha-1-50	core	0.0154	50.68	0.17	0.0375	0.14	3.14	0.24	9.79	0	0.46	34.073	0.17	0	98.918	6.63	28.1	99.58	57.87	35.95	6.18	100
Alpha-1-51	core	0.0211	49.48	0.17	0.0446	0.17	2.75	0.29	8.75	0.038	0.36	36.677	0.134	0	98.897	8.48	29.1	99.75	59.91	32.19	7.90	100
Alpha-1-52	core	0	51.72	0.10	0.0381	0.11	2.79	0.01	10.13	0	0.36	33.405	0.031	0	98.7	5.79	28.2	99.28	57.67	36.97	5.36	100
Alpha-1-53	core	0.0122	49.87	0.20	0.0213	0.04	2.67	0.21	8.98	0	0.32	36.388	0.057	0.021	98.794	8.19	29	99.61	59.56	32.86	7.58	100
Alpha-1-54	core	0.0188	53.52	0.06	0.0071	0.23	2.26	0.12	12.10	0.006	0.38	29.857	0.172	0.019	98.757	3.99	26.3	99.16	52.92	43.46	3.62	100
Alpha-1-55	core	0.023	53.36	0.07	0.0213	0.13	2.28	0.03	11.33	0.045	0.32	31.176	0.144	0	98.934	4.16	27.4	99.35	55.39	40.81	3.80	100
Alpha-1-56	core	0.0068	49.31	0.20	0	0.01	2.65	0.06	8.64	0	0.47	37.201	0.085	0.032	98.658	9.48	28.7	99.61	59.32	31.86	8.82	100
Alpha-1-57	core	0.0292	50.15	0.13	0.0491	0.01	2.72	0.06	8.55	0.04	0.33	36.591	0	0	98.663	7.57	29.8	99.42	61.44	31.49	7.07	100
Alpha-1-58	core	0.0078	49.69	0.12	0.0045	0.00	2.73	0.06	8.52	0	0.33	37.066	0.092	0.005	98.626	8.62	29.3	99.49	60.58	31.40	8.02	100
Alpha-1-59	core	0.0121	47.3	0.16	0.0382	0.00	3.25	0.25	7.62	0.013	0.39	39.05	0.113	0	98.194	11.12	29	99.31	60.95	28.52	10.53	100
Alpha-1-60	core	0.0155	51.66	0.13	0.0149	0.08	2.97	0.3	10.38	0.052	0.34	32.706	0.067	0	98.733	5.09	28.1	99.24	57.48	37.83	4.70	100
Alpha-1-61	core	0.0221	53	0.06	0.0479	0.19	2.60	0	11.31	0.02	0.32	31.109	0.138	0.091	98.91	4.49	27.1	99.36	54.92	40.94	4.14	100
Alpha-1-62	core	0.0205	51.63	0.11	0	0.00	2.67	0	9.85	0.028	0.47	33.637	0.161	0.09	98.671	5.96	28.3	99.27	58.28	36.19	5.53	100
Alpha-1-63	core	0.0152	53.14	0.05	0.0123	0.48	2.64	0.18	11.77	0	0.29	29.862	0.189	0.144	98.78	3.67	26.6	99.15	53.98	42.66	3.36	100
Alpha-1-64	core	0	52.78	0.05	0	0.17	2.15	0.15	10.88	0.027	0.35	32.064	0.152	0.04	98.817	4.74	27.8	99.29	56.37	39.31	4.32	100
Alpha-1-65	core	0.0337	53.93	0.09	0	0.20	2.14	0	11.43	0	0.21	31.542	0	0.072	99.642	3.93	28	100.04	55.86	40.61	3.53	100
Alpha-1-66	core	0.0287	51.34	0.11	0	0.21	3.04	0.04	10.15	0	0.32	33.831	0.126	0.045	99.239	6.69	27.8	99.91	56.85	36.99	6.16	100
Alpha-1-67	core	0.0118	49.87	0.16	0.0413	0.00	2.85	0	8.55	0.017	0.33	36.533	0.092	0	98.466	7.96	29.4	99.26	60.90	31.64	7.46	100
Alpha-1-68	core	0.0285	51.37	0.09	0	0.06	2.87	0.04	9.96	0.036	0.36	34.088	0.073	0	98.971	6.58	28.2	99.63	57.64	36.30	6.06	100
Alpha-1-69	core	0.0057	50	0.16	0.0633	0.03	2.75	0.15	8.84	0.007	0.32	36.474	0.169	0	98.97	8.11	29.2	99.78	60.00	32.44	7.56	100
Alpha-1-70	core	0.0106	51.29	0.09	0.0291	0.13	2.81	0.39	9.96	0.059	0.27	33.584	0.166	0.037	98.827	5.58	28.6	99.39	58.47	36.37	5.16	100
Alpha-1-71	core	0.0343	49.74	0.12	0.0323	0.02	2.76	0.25	8.90	0.01	0.36	36.736	0.036	0.074	99.056	8.62	29	99.92	59.46	32.55	7.99	100
Alpha-1-72	core	0.0081	50.01	0.18	0.0136	0.10	2.91	0.19	9.08	0.012	0.33	35.761	0.087	0.011	98.68	7.67	28.9	99.45	59.51	33.37	7.12	100
Alpha-1-73	core	0.0076	49.9	0.17	0	0.13	2.98	0.12	9.13	0.014	0.49	36.047	0.059	0	99.049	8.48	28.4	99.90	58.59	33.55	7.87	100
Alpha-1-74	core	0.0068	51.47	0.08	0.0582	0.08	2.97	0	10.34	1E-04	0.34	33.152	0.124	0.048	98.67	6.30	27.5	99.30	56.32	37.82	5.85	100
Alpha-1-75	core	0	48.04	0.18	0.0608	0.04	3.16	0.18	8.09	0	0.39	38.166	0.103	0.013	98.418	10.41	28.8	99.46	60.07	30.10	9.83	100
Alpha-1-76	rim	0	47.47	0.30	0.0071	0.02	2.32	0.2	7.48	0.025	0.41	40.044	0.049	0	98.344	11.72	29.5	99.52	61.31	27.73	10.96	100
Alpha-1-77	core	0.0084	47.04	0.32	0.033	0.00	2.48	0.27	7.30	0.021	0.34	40.388	0.007	0.066	98.275	11.93	29.6	99.47	61.69	27.10	11.20	100
Alpha-1-78	rim	0	51.03	0.11	0	0.13	3.16	0.25	10.22	0	0.41	33.513	0.164	0.051	99.037	6.59	27.6	99.70	56.57	37.34	6.09	100
Alpha-1-79	core	0.0213	51.1	0.12	0.0149	0.06	3.10	0.18	9.95	0.022	0.48	33.551	0.194	0	98.785	6.20	28	99.41	57.67	36.57	5.77	100
Alpha-1-80	rim	0.0153	52.75	0.11	0.0298	0.18	2.54	0.04	11.50	0.054	0.28	31.396	0.182	0.035	99.11	5.31	26.6	99.64	53.75	41.40	4.85	100
Alpha-1-81	core	0.0321	51.7	0.06	0.0291	0.04	2.77	0.03	10.40	0.024	0.36	33.056	0.193	0	98.702	6.13	27.5	99.32	56.36	37.97	5.67	100
Alpha-1-82	rim	0.0104	49.62	0.16	0.0647	0.02	3.28	0.2	9.36	0.009	0.42	35.383	0.113	0	98.646	8.28	27.9	99.48	57.72	34.53	7.75	100
Alpha-1-83	core	0	49.98	0.15	0.0485	0.01	3.46	0.25	9.22	0.056	0.33	35.13	0	0.074	98.697	7.22	28.6	99.42	59.23	34.01	6.76	100
Alpha-1-84	rim	0	48.18	0.18	0.0298	0.07	3.29	0.1	8.96	0.007	0.39	37.406	0.026	0.111	98.753	11.34	27.2	99.89	56.32	33.09	10.59	100
Alpha-1-85	core	0.0112	47.01	0.18	0	0.07	3.14	0.37	7.69	0.013	0.41	39.538	0.082	0.042	98.557	11.90	28.8	99.75	60.21	28.60	11.18	100
Alpha-1-12*	core	0.01	49.73	0.13	0.04	0.02	3.15	0.4	10.00	0	0.39	34.399	0.073	0	98.346	7.95	27.2	99.14	55.98	36.64	7.38	100
Alpha-1-13*	core	0	49.6	0.14	0	0.01	2.69	0.33	8.77	0.018	0.42	36.52	0.117	0	98.617	8.26	29.1	99.44	60.06	32.27	7.67	100
Alpha-1-29*	core	0.003	49.2	0.17	0.008	0.02	2.72	0.29	8.99	0.023	0.42	37.161	0.133	0	99.137	9.85	28.3	100.12	58.05	32.85	9.10	100
Alpha-1-34*	core	0.023	50.05	0.13	0.004	0.01	2.84	0.16	9.11	0.034	0.33	36.114	0.054	0.032	98.902	8.19	28.7	99.72	59.07	33.36	7.58	100
Alpha-1-42*	core	0.008	53.73	0.04	0	0.34	2.67	0	11.77	0	0.31	30.703	0.1	0.091	99.771	4.22	26.9	100.19	54.05	42.14	3.81	100

Alpha-1 Pyroxene

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Alpha-1-1	55.234	0.3	5.4588	0.8437	14.583	14.61	0.1355	4.941	0.068	4.0257	0.009	100.21
Alpha-1-2	55.255	0.257	5.4307	1.1083	14.563	14.29	0.1083	4.555	0.047	4.23	0.008	99.849
Alpha-1-4	55.478	0.2318	5.4658	1.18	14.571	14.17	0.1367	4.419	0.025	4.2305	0	99.904
Alpha-1-5	55.495	0.2329	5.5458	1.1584	14.541	14.09	0.1567	4.529	0.05	4.0829	0.018	99.897
Alpha-1-6	55.419	0.2397	4.6421	1.0523	15.119	14.71	0.1753	4.556	0.05	3.7314	0.014	99.712
Alpha-1-8	55.241	0.2571	4.972	1.1085	14.915	14.67	0.1397	4.441	0.052	3.8679	0	99.667
Alpha-1-9	54.725	0.3112	1.9851	1.2439	15.743	19.65	0.1042	3.54	0.047	2.1263	0.008	99.48
Alpha-1-10	54.826	0.319	5.3063	0.8613	14.535	14.56	0.0685	4.859	0.038	4.0121	0.052	99.442
Alpha-1-11	54.97	0.2705	5.3956	0.9196	14.593	14.49	0.1553	4.809	0.033	4.0255	0.001	99.659
Alpha-1-12	54.819	0 2571	4.748	1.1158	14.755	15.1	0.0613	4.463	0.022	3.7519	0	99.09
Alpha-1-13	54.95	0.2566	4.5767	1.1079	15.082	15.21	0.1724	4.467	0.07	3.723	0.021	99.635
Alpha-1-14	54.906	0.3024	5.2645	0.9067	14.48	14.64	0.0868	4.874	0.043	4.0377	0	99.542
Alpha-1-15	55.099	0.2395	5.5379	1.121	14.431	14.19	0.1297	4.509	0.033	4.1425	0	99.43
Alpha-1-16	54.8	0.2815	2.1012	1.2589	15.738	19.8	0.0557	3.531	0.024	2.1214	0.026	99.736
Alpha-1-17	54.846	0.2903	5.2634	0.8761	14.568	14.64	0.1554	4.846	0.048	4.0095	0.026	99.566
Alpha-1-18	55.15	0.3034	5.2743	1.2287	14.761	13.82	0.094	4.453	0.044	4.1121	0.024	99.266
Alpha-1-19	54.943	0.2573	4.9489	1.0538	15.042	15	0.1398	4.264	0.065	3.7292	0.033	99.472
Alpha-1-20	54.986	0.2831	5.3561	0.8229	14.518	14.54	0.1255	4.91	0.061	4.0254	0.005	99.63
Alpha-1-21	54.934	0.1394	0.4026	1.8103	16.268	22.29	0.063	2.344	0.044	1.3401	0	99.635
Alpha-1-22	54.823	0.3091	2.0499	1.1625	15.686	19.85	0.0757	3.615	0	2.1323	0	99.704
Alpha-1-23	55.015	0.2938	5.2798	0.8824	14.453	14.52	0.1227	4.687	0.058	4.0421	0	99.356
Alpha-1-24	55.308	0.2809	5.571	1.0895	14.48	14.11	0.1397	4.421	0.061	4.2094	0	99.666
Alpha-1-25	55.287	0.2832	5.9227	1.0573	14.057	14.05	0.1368	4.746	0	4.4506	0	99.991

Alpha-1 Olivine

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Alpha-1-1	40.382	0.0136	0.0383	0	46.61	0.001	0.1846	12.71	0.168	0.0057	0	100.11
Alpha-1-2	40.936	0.041	0	0.0681	49.377	0.05	0.14	9.152	0.349	0.0277	0	100.14
Alpha-1-3	41.228	0.0218	0	0	50.656	0.019	0.1248	7.238	0.392	0.0017	0.029	99.71
Alpha-1-4	40.378	0.0211	0	0.0176	47.082	0.023	0.1581	12	0.149	0.0077	0	99.841
Alpha-1-5	41.006	0.0278	0	0.0127	50.4	0.002	0.0992	8.243	0.394	0.0084	0	100.19
Alpha-1-6	41.063	0	0	0	49.786	0.01	0.1317	8.578	0.29	0	0	99.859
Alpha-1-7	41.091	0.0099	0	0	50.278	0	0.1234	8.201	0.408	0.0037	0.02	100.14
Alpha-1-8	40.965	0.016	0	0.0478	49.423	0.028	0.1174	8.905	0.465	0.0134	0.019	100
Alpha-1-9	40.167	0.0281	0.0032	0	46.815	0.006	0.1874	12.63	0.182	0	0	100.02
Alpha-1-10	40.204	0.0248	0	0.0313	46.753	0.026	0.1241	11.93	0.257	0.033	0.02	99.407
Alpha-1-11	40.214	0.0281	0	0	46.836	0.065	0.1338	12.09	0.289	0.034	0	99.695

Alpha-North Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Alpha-North-1	dk purple	41.091	0.1437	19.4588	5.6171	19.48	5.57	0.4497	8.527	0.028	0.028	0	100.39
Alpha-North-2	dk purple	41.25	0.0478	20.5497	4.2884	20.27	4.679	0.4419	7.516	0.044	0.03	0	99.116
Alpha-North-3	dk purple	41.473	0.0109	20.7656	4.4329	20.401	4.888	0.4034	7.902	0	0.0182	0.022	100.32
Alpha-North-4	dk purple	41.586	0.0326	20.9875	3.5446	20.521	4.617	0.6636	8.247	0	0.0238	0	100.22
Alpha-North-5	dk purple	41.438	0.2062	19.6974	5.382	20.102	5.258	0.4243	7.743	0	0.049	0	100.3
Alpha-North-7	dk purple	41.196	0.1286	19.3615	5.5531	19.34	5.541	0.4578	8.492	0	0.0376	0	100.11
Alpha-North-8	dk purple	41.068	0.2137	18.9911	6.2136	19.509	5.611	0.4861	7.939	0.017	0.0437	0	100.09
Alpha-North-9	dk purple	40.889	0.2022	18.1955	6.8495	19.294	5.946	0.4602	7.811	0	0.0231	0	99.669
Alpha-North-10	dk purple	41.893	0.0905	21.4799	3.0304	20.581	4.553	0.4607	8.248	0	0.0252	0	100.36
Alpha-North-11	dk purple	40.635	0.2136	17.3383	7.8653	18.932	6.525	0.4457	7.987	0.001	0.0431	0	99.986
Alpha-North-12	dk purple	41.411	0.0957	19.5155	5.4626	19.434	5.687	0.4042	8.094	0.003	0.0245	0	100.13
Alpha-North-13	dk purple	40.889	0.2822	18.3158	6.7093	19.733	5.04	0.3977	8.459	0	0.0504	0	99.877
Alpha-North-14	dk purple	41.51	0.1488	20.2067	4.5749	20.208	5.116	0.4473	7.957	0	0.027	0	100.19
Alpha-North-15	dk purple	41.468	0.2093	19.8728	5.1894	20.478	5.22	0.4089	7.363	0.012	0.0567	0	100.28
Alpha-North-16	dk purple	41.65	0.1734	20.2831	4.5102	20.451	5.013	0.4275	8.11	0.016	0.0331	0	100.67
Alpha-North-17	dk purple	41.03	0.234	17.5496	7.7731	19.049	6.405	0.5097	7.6	0	0.0333	0	100.18
Alpha-North-18	dk purple	41.768	0.0383	20.9234	3.8203	20.843	4.191	0.5411	8.491	0	0.0198	0.013	100.65
Alpha-North-19	dk purple	41.724	0	20.9152	4.0695	20.576	4.554	0.4903	7.862	0	0.0237	0	100.21
Alpha-North-20	dk purple	41.657	0.2279	19.9959	4.8809	21.007	4.216	0.4529	8.134	0.043	0.0579	0	100.67
Alpha-North-21	dk purple	41.21	0.2124	19.0225	6.0785	19.556	5.592	0.4549	8.196	0.04	0.0486	0	100.41
Alpha-North-22	dk purple	41.833	0.0213	20.9395	4.1085	20.48	4.72	0.496	7.814	1E-04	0.0365	0	100.45
Alpha-North-23	dk purple	41.317	0.1136	19.248	5.6488	19.441	5.518	0.4878	8.164	0	0.0462	0.014	99.998
Alpha-North-24	dk purple	41.699	0.0529	20.6697	4.2583	20.153	4.878	0.5297	8.147	0.016	0.0218	0.023	100.45
Alpha-North-25	dk purple	41.103	0.1243	19.3154	5.7041	19.449	5.555	0.4968	8.392	0.033	0.0429	0.005	100.22
Alpha-North-26	purple	41.606	0	21.0469	4.0008	20.727	4.506	0.5273	7.943	0	0.0213	0	100.38
Alpha-North-27	purple	41.283	0.1437	19.3205	5.5468	19.73	5.538	0.5219	8.524	0.011	0.0415	0.004	100.66
Alpha-North-28	purple	41.799	0.1516	20.7515	3.9022	20.843	4.732	0.4139	7.349	0.059	0.0364	0	100.04
Alpha-North-29	purple	41.28	0.2205	19.0514	6.1711	19.552	5.643	0.4737	8.043	0	0.0515	0.008	100.49
Alpha-North-30	purple	41.165	0.2294	19.5499	5.4801	20.011	5.244	0.3861	7.731	0	0.0389	0	99.835
Alpha-North-31	purple	41.809	0.1561	20.5152	4.3398	21.207	4.422	0.489	7.468	0.044	0.0365	0	100.49
Alpha-North-32	purple	41.145	0.2237	19.4637	5.3237	19.981	5.16	0.4373	7.994	0	0.0431	0	99.771
Alpha-North-33	purple	41.596	0.1223	21.383	3.1607	20.761	4.608	0.4099	8.307	0.009	0.0307	0	100.39
Alpha-North-34	purple	41.416	0.1735	19.1759	5.9634	19.806	5.451	0.5037	7.911	0.025	0.0385	0.016	100.48
Alpha-North-35	purple	40.957	0.0575	21.2778	3.0535	17.591	5.606	0.7395	11.19	0.041	0.0109	0	100.52
Alpha-North-36	purple	41.714	0	21.4923	3.0598	20.584	4.413	0.5137	8.181	0	0.0248	0.012	99.993
Alpha-North-37	purple	41.193	0.1912	18.6442	6.4825	19.468	5.86	0.4935	8.005	0	0.0391	0	100.38
Alpha-North-38	purple	41.454	0.1978	19.4573	5.3299	19.935	5.179	0.4089	8.116	0.062	0.049	0	100.19
Alpha-North-39	purple	41.505	0.2201	19.4086	5.2789	19.987	5.357	0.4303	7.875	0.019	0.0444	0	100.13
Alpha-North-40	purple	41.497	0.0392	20.1113	4.9538	19.934	5.061	0.4929	8.006	0	0.0269	0	100.12
Alpha-North-41	purple	41.74	0.0047	21.0484	3.746	20.017	5.277	0.4326	7.883	0	0.0198	0.008	100.18
Alpha-North-42	purple	41.117	0.1583	19.491	5.485	19.613	5.356	0.4765	8.62	0.002	0.0531	0.005	100.38
Alpha-North-43	purple	41.218	0.1522	18.9634	5.8112	19.447	5.484	0.41	8.467	0	0.0457	0	99.999
Alpha-North-44	purple	41.568	0.0696	20.7331	4.3629	20.076	5.003	0.4978	8.114	0	0.0419	0.01	100.48
Alpha-North-45	purple	41.304	0.2459	19.4555	5.4865	20.054	5.361	0.4373	8.002	0	0.0433	0	100.39
Alpha-North-46	purple	41.435	0.0516	20.753	4.143	20.47	4.603	0.5275	8.083	0.015	0.0277	0	100.11
Alpha-North-47	purple	41.379	0.1499	19.472	5.6373	19.608	5.363	0.4568	8.426	0.035	0.0477	0	100.58
Alpha-North-48	purple	41.241	0.2346	19.1725	5.9306	20.105	5.396	0.4189	7.548	0.003	0.0494	0	100.1
Alpha-North-49	purple	41.151	0.1089	19.3579	5.5903	19.535	5.542	0.42	8.461	0.01	0.0408	0.002	100.22
Alpha-North-50	purple	41.582	0.1885	20.4614	4.4383	20.566	4.76	0.4006	7.815	0	0.042	0	100.25
Alpha-North-51	purple	41.587	0.4396	21.5815	1.7158	19.729	4.735	0.4223	10.13	0	0.0472	0	100.39
Alpha-North-53	purple	41.424	0.4024	20.5112	3.1895	20.367	5.012	0.3796	8.955	0	0.0462	0.013	100.3
Alpha-North-54	purple	41.766	0.347	21.9705	1.7787	20.512	4.285	0.3261	9.051	0	0.0594	0.014	100.11
Alpha-North-55	purple	41.167	0.8898	19.9233	2.9633	18.665	5.918	0.5227	9.811	0.023	0.1127	0.003	99.997
Alpha-North-56	purple	41.456	0.3859	20.5215	3.1235	20.165	5.073	0.4114	8.768	0	0.0352	0.019	99.959
Alpha-North-58	purple	41.702	0.4191	21.5903	1.6968	19.716	4.483	0.3943	10.16	8E-04	0.0628	0	100.22
Alpha-North-59	purple	41.509	0.2179	19.5824	5.3975	19.976	5.264	0.3753	7.817	0.01	0.0508	0	100.2
Alpha-North-60	purple	41.554	0.0194	20.7531	4.0738	20.579	4.599	0.5407	7.92	0	0.0328	0	100.07
Alpha-North-61	purple	41.479	0.0393	20.5587	4.4408	20.308	4.97	0.5135	8.214	0.01	0.0158	0.003	100.55
Alpha-North-62	purple	41.149	0.1409	18.657	6.723	19.605	5.618	0.4414	7.89	0.018	0.0307	0.001	100.27
Alpha-North-63	purple	41.031	0.1534	19.1577	5.6526	19.544	5.383	0.4701	8.343	0.031	0.0488	0	99.814
Alpha-North-64	purple	41.31	0.2325	19.2254	5.858	20.017	5.45	0.4108	7.514	0	0.0462	0	100.06
Alpha-North-65	purple	41.099	0.093	19.2806	5.7435	19.686	5.528	0.4658	7.822	0.002	0.0186	0.011	99.75
Alpha-North-66	purple	41.511	0.0555	20.791	4.1309	21.045	4.519	0.4416	7.409	0.046	0.0373	0.01	99.996
Alpha-North-67	purple	41.68	0.0478	20.7495	4.1035	20.268	4.976	0.4511	8.197	0	0.0295	0	100.5
Alpha-North-68	purple	41.347	0.1671	19.3291	5.4709	20.072	5.375	0.4289	8.022	0.001	0.0472	0.03	100.29
Alpha-North-69	purple	41.475	0.0786	20.5251	4.3773	20.28	5.02	0.4782	7.842	0	0.0286	0	100.1
Alpha-North-70	purple	41.312	0.1317	19.4003	5.5717	19.429	5.505	0.4431	8.464	0.035	0.0281	0.004	100.32
Alpha-North-71	purple	41.283	0.1157	19.5623	5.5961	19.305	5.601	0.4333	8.169	0	0.038	0	100.1
Alpha-North-72	purple	41.356	0.1318	19.5913	5.5034	19.541	5.561	0.4064	8.36	0	0.0294	0	100.48
Alpha-North-73	purple	41.575	0.047	21.7981	2.999	20.839	4.391	0.5814	8.179	0.018	0.017	0.004	100.45
Alpha-North-74	purple	41.669	0.028	20.8247	4.2941	20.835	4.501	0.5213	7.415	0.013	0.0347	0	100.13
Alpha-North-75	purple	41.092	0.0252	19.6085	5.4694	19.774	5.344	0.5386	7.893	0.031	0.0272	0.004	99.806
Alpha-North-76	purple	41.789	0.314	22.1032	1.7584	20.484	4.406	0.3763	9.19	0.028	0.0378	0	100.49
Alpha-North-77	purple	41.69	0.3272	22.2986	1.6755	20.526	4.559	0.4317	9.354	0	0.0442	0	100.91
Alpha-North-79	purple	41.441	0.3781	20.4067	3.2762	20.286	4.964	0.3914	9.004	0.017	0.0355	0	100.2

Alpha-North Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Alpha-North-80	purple	41.737	0.4996	20.0819	3.3803	20.454	5.085	0.3232	8.878	0	0.0454	0	100.48
Alpha-North-81	purple	41.617	0.5016	21.5077	1.5617	20.13	4.041	0.4641	10.12	0	0.1031	0.032	100.08
Alpha-North-82	purple	38.858	0.0513	21.9543	0.0585	7.9764	9.326	0.5303	21.68	0	0.0438	0	100.48
Alpha-North-83	purple	41.193	0.6608	21.3512	1.4493	19.437	4.559	0.485	10.72	0.003	0.1063	0	99.969
Alpha-North-84	purple	38.788	0.0587	21.6727	0.0318	8.5232	6.04	0.6285	24.75	0.006	0.0084	0.012	100.52
Alpha-North-86	purple	41.464	0.3882	20.4363	3.5802	20.287	4.7	0.4055	8.949	0.022	0.0547	0.002	100.29
Alpha-North-90	purple	41.733	0.2693	22.0339	1.5772	20.135	4.426	0.4404	9.503	0	0.0615	0	100.18
Alpha-North-91	purple	41.95	0.4143	21.2759	2.3187	20.267	4.532	0.4001	9.797	0.003	0.061	0	101.02
Alpha-North-92	purple	41.316	0.4997	20.8334	2.4282	19.808	5.675	0.322	9.094	0	0.0654	0	100.04
Alpha-North-93	purple	41.452	0.3764	20.2461	3.6013	20.393	4.632	0.3927	8.912	0	0.0454	0.009	100.06
Alpha-North-94	purple	41.705	0.3929	20.7074	3.0593	20.34	4.88	0.3362	8.91	0	0.0451	0	100.38
Alpha-North-95	purple	41.259	0.3959	20.5418	3.1789	20.307	5.007	0.356	8.843	0	0.0323	0	99.921
Alpha-North-96	purple	41.904	0.3943	20.4709	3.0957	20.271	5.018	0.3903	8.761	0.016	0.0399	0	100.36
Alpha-North-97	purple	41.779	0.3721	21.2024	2.442	20.152	4.616	0.4204	9.206	0	0.0462	0	100.24
Alpha-North-98	purple	41.873	0.4054	20.1771	4.3238	20.98	4.905	0.3704	7.73	0.028	0.0596	0	100.85
Alpha-North-99	purple	41.61	0.2189	19.6083	5.5412	19.983	5.384	0.4153	8.024	0.058	0.0464	0	100.89
Alpha-North-100	purple	41.506	0.3961	20.5724	3.176	20.324	4.972	0.3635	8.767	0.056	0.0368	0.005	100.17
Alpha-North-101	purple	41.106	0.1736	19.1644	6.0709	19.533	5.618	0.4782	7.969	0.047	0.0404	0	100.2
Alpha-North-102	purple	41.737	0.4444	20.4053	3.1368	20.493	4.929	0.3264	8.46	0.006	0.0441	0.003	99.983
Alpha-North-103	purple	41.537	0.382	20.3898	3.4873	20.382	4.64	0.4757	8.816	0	0.0529	0	100.16
Alpha-North-104	purple	41.519	0.3668	20.6041	3.4201	20.299	4.616	0.3874	8.887	0	0.0802	0.006	100.19
Alpha-North-105	purple	41.812	0.5223	20.0556	3.5018	20.48	5.1	0.2992	8.562	0.021	0.0332	0	100.39
Alpha-North-106	purple	41.731	0.3566	21.238	2.4568	20.472	4.543	0.4064	9.307	0.006	0.0431	0	100.56
Alpha-North-107	purple	41.734	0.4188	21.1605	2.3186	20.527	4.123	0.3746	9.471	0	0.0907	0.022	100.24
Alpha-North-108	purple	41.522	0.3629	20.2582	3.6051	20.361	4.599	0.4215	8.936	0.032	0.0503	0.024	100.17
Alpha-North-109	purple	41.88	0.1926	21.8609	2.1322	20.557	4.72	0.3895	9.032	0.028	0.0364	0	100.83
Alpha-North-110	purple	41.94	0.1236	21.2186	3.0408	20.698	4.882	0.3423	8.228	0	0.0338	0	100.51
Alpha-North-111	purple	41.667	0.2441	20.8908	3.1787	20.321	4.782	0.4321	8.322	0	0.0276	0	99.865
Alpha-North-112	purple	41.659	0.4025	20.5509	3.2024	20.395	5.031	0.3435	8.913	0.012	0.0373	0	100.55
Alpha-North-113	purple	41.46	0.4289	20.3713	3.2016	19.803	5.656	0.3606	8.737	0.06	0.0769	0.037	100.19
Alpha-North-114	purple	41.529	0.1766	20.8898	3.3683	20.13	4.958	0.3578	8.559	0	0.0304	0	99.999
Alpha-North-115	purple	41.476	0.5308	19.9475	3.433	20.462	5.056	0.2994	8.536	0.035	0.0424	0	99.819
Alpha-North-116	purple	41.777	0.4791	20.5854	2.882	19.845	5.774	0.3667	8.434	0.006	0.0683	0	100.22
Alpha-North-117	purple	41.548	0.3777	20.5887	3.2368	20.204	4.938	0.3963	8.996	0	0.0405	0	100.33
Alpha-North-118	purple	41.642	0.3844	20.3949	3.513	20.267	4.569	0.4345	9.034	0.013	0.0555	0	100.31
Alpha-North-119	purple	41.84	0.4309	21.075	2.338	20.264	4.776	0.3808	9.538	0.016	0.0983	0	100.76
Alpha-North-120	purple	41.681	0.4168	20.5803	3.0515	20.589	4.907	0.2739	8.577	0	0.0531	0	100.13
Alpha-North-121	purple	41.569	0.4347	20.7508	2.6295	19.846	4.75	0.3948	9.593	0.025	0.0538	0.038	100.08
Alpha-North-122	purple	41.798	0.2793	21.83	2.0506	20.691	4.538	0.4141	8.914	0	0.0431	0.041	100.6
Alpha-North-123	purple	41.688	0.3914	20.3215	3.5218	20.277	4.645	0.4216	9.238	0.024	0.0594	0.012	100.6
Alpha-North-124	purple	42.057	0.4357	21.645	2.0549	21.043	3.96	0.3653	9.462	0	0.1065	0.008	101.14
Alpha-North-125	purple	41.546	0.2103	21.4707	2.8306	20.309	4.654	0.4725	8.684	0.02	0.0689	0	100.27
Alpha-North-126	purple	41.117	0.2037	18.8016	6.0342	19.447	5.665	0.4694	7.969	0	0.0213	0	99.728
Alpha-North-127	purple	41.525	0.1786	19.5886	5.4544	20.206	5.237	0.4103	7.642	0.014	0.0349	0	100.29
Alpha-North-128	purple	41.813	0.0304	20.8035	3.9919	20.321	4.571	0.4648	8.417	0	0.0196	0.021	100.45
Alpha-North-129	purple	41.209	0.1059	19.4714	5.7247	19.525	5.533	0.4581	8.307	0.031	0.0439	0	100.41
Alpha-North-130	purple	41.161	0.2258	19.407	5.5746	20.114	5.348	0.467	7.795	0.074	0.0391	0.002	100.21
Alpha-North-131	purple	41.353	0	20.4604	4.6767	20.105	4.848	0.5629	8.088	0.028	0.0346	0.029	100.19
Alpha-North-132	purple	41.004	0.1385	19.4664	5.687	19.678	5.408	0.4907	8.537	0.014	0.0464	0.003	100.47
Alpha-North-133	purple	41.345	0.0677	20.1367	5.0763	19.911	5.09	0.5214	8.1	0.007	0.02	0	100.27
Alpha-North-134	purple	41.462	0.0038	21.7045	2.9359	19.184	5.518	0.6703	9.038	0	0.0145	0	100.53
Alpha-North-135	purple	41.215	0.1578	18.8596	6.5302	19.47	5.761	0.4864	7.734	0	0.0208	0	100.23
Alpha-North-136	purple	41.364	0.2106	19.5455	5.5618	19.871	5.274	0.5197	7.763	0.052	0.0364	0	100.2
Alpha-North-137	purple	41.249	0.2241	19.5505	5.4029	20.154	5.277	0.3562	7.877	0.024	0.0343	0	100.15
Alpha-North-138	purple	40.895	0.1809	18.7045	6.466	19.555	5.788	0.4807	8.055	0.015	0.0248	0.011	100.18
Alpha-North-139	purple	41.398	0.1499	20.492	4.0508	20.135	4.861	0.4776	8.378	0.015	0.0269	0	99.985
Alpha-North-140	purple	41.013	0.2718	19.6597	5.4103	19.974	5.3	0.4459	8.033	0.041	0.0385	0.044	100.23
Alpha-North-141	purple	41.13	0.2083	19.4278	5.5797	19.971	5.29	0.4244	7.761	0	0.0323	0	99.824
Alpha-North-142	purple	41.104	0.226	19.4625	5.3299	20.118	5.304	0.4575	7.756	0	0.0379	0	99.796
Alpha-North-143	purple	41.35	0.1847	20.8508	3.75	20.353	4.788	0.4594	8.477	0.009	0.042	0.036	100.3
Alpha-North-144	purple	41.364	0.0104	20.6133	4.4577	20.405	4.691	0.5532	7.978	0	0.0325	0.01	100.12
Alpha-North-145	purple	41.535	0.028	20.3005	4.6882	20.073	4.956	0.4833	8.08	0.009	0.0272	0.003	100.18
Alpha-North-146	purple	41.89	0.0818	21.2342	3.6691	21.282	4.168	0.4629	7.499	0.035	0.0329	0	100.35
Alpha-North-147	purple	41.604	0.0499	20.7776	4.0484	20.512	4.733	0.4367	7.54	0	0.0247	0	99.726
Alpha-North-148	purple	41.415	0.0147	20.491	4.6097	20.322	4.944	0.5418	8.054	0	0.012	0	100.4
Alpha-North-149	purple	41.25	0.1335	19.4656	5.5553	19.507	5.501	0.4345	8.203	0	0.0343	3E-04	100.08
Alpha-North-150	purple	41.512	0.1581	19.8822	5.0246	20.628	5.068	0.4737	7.345	0	0.0414	0	100.13
Alpha-North-151	purple	41.82	0.1142	21.5794	3.2374	20.673	4.618	0.4599	8.197	0.012	0.0197	0	100.73
Alpha-North-152	purple	41.44	0	20.8821	4.0411	20.51	4.766	0.4968	7.827	0	0.0203	0	99.984
Alpha-North-153	purple	41.363	0.1638	20.472	4.3418	20.506	4.878	0.401	7.905	0.032	0.0526	0	100.11
Alpha-North-154	purple	41.073	0.088	19.6691	5.4043	19.654	5.531	0.4612	8.473	0.044	0.0306	0.047	100.48
Alpha-North-155	purple	40.976	0.1391	19.4606	5.6378	19.506	5.427	0.4457	8.513	0	0.0419	0	100.15
Alpha-North-156	purple	41.413	0.2334	18.4882	6.6652	19.937	5.244	0.5381	7.708	0.014	0.0417	0	100.28
Alpha-North-157	purple	41.54	0.4136	21.4258	1.7251	19.983	4.54	0.4381	9.962	0.012	0.0503	0	100.09
Alpha-North-158	purple	41.323	0.0489	20.5047	4.3461	20.367	4.632	0.4637	8.216	0	0.0272	0	99.928

Alpha-North Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Alpha-North-159	purple	41.059	0.1901	18.0985	7.0993	19.584	5.836	0.4471	7.364	0	0.041	0.019	99.737
Alpha-North-160	purple	41.455	0.2198	19.7535	5.3237	20.127	5.281	0.456	8.061	0.016	0.0496	0	100.74
Alpha-North-161	purple	41.227	0.2038	19.67	5.4048	19.988	5.268	0.4176	7.902	0.016	0.0518	0.017	100.17
Alpha-North-162	purple	41.206	0.1992	18.6052	6.8391	19.918	5.715	0.4075	7.501	0	0.07	0.038	100.5
Alpha-North-163	purple	41.347	0.1368	19.3797	5.5312	19.371	5.502	0.5155	8.468	0.006	0.0385	0.008	100.3
Alpha-North-164	purple	41.253	0.1477	19.3349	5.5264	19.475	5.318	0.4928	8.249	0.025	0.0274	0.05	99.899
Alpha-North-165	purple	41.227	0.2256	19.5294	5.6973	19.9	5.387	0.432	7.752	0	0.043	0	100.19
Alpha-North-166	purple	41.697	0.1131	21.1211	3.3737	20.534	4.612	0.5254	8.293	0.026	0.0221	0	100.32
Alpha-North-167	purple	40.817	0.1663	18.2111	6.9945	19.303	5.761	0.434	7.725	0	0.0276	0.033	99.471
Alpha-North-168	purple	41.459	0.0228	21.0474	3.5554	20.276	4.388	0.5911	8.423	0	0.0176	0.012	99.792
Alpha-North-169	purple	41.502	0.1269	20.9562	3.6732	20.099	5.046	0.3625	8.582	0.032	0.024	0.034	100.44
Alpha-North-170	purple	41.555	0.2127	20.4384	4.2727	20.088	5.044	0.4823	8.199	0	0.0437	0.003	100.34
Alpha-North-171	purple	41.459	0.0385	20.6202	4.2181	20.363	4.744	0.504	8.03	0	0.0228	0.002	100
Alpha-North-172	purple	40.591	0.1161	16.2317	9.2771	18.599	6.367	0.5093	8.04	0	0.0493	0.004	99.785
Alpha-North-173	purple	41.627	0.0337	20.711	4.0997	20.031	4.776	0.5224	8.308	0	0.0267	0	100.14
Alpha-North-174	purple	41.067	0.2789	18.9262	6.218	19.962	5.376	0.3891	7.64	0.012	0.0454	0.003	99.916
Alpha-North-175	purple	41.298	0.2408	19.571	5.4087	19.965	5.191	0.4386	7.995	0.049	0.044	0.011	100.21
Alpha-North-176	red	41.571	0.0124	20.7495	4.3564	20.414	4.865	0.447	7.632	0	0.0212	0.005	100.07
Alpha-North-177	red	41.496	0.0636	20.5683	4.463	20.091	4.881	0.6005	8.528	0	0.015	0	100.71
Alpha-North-178	red	41.7	0.0408	20.5532	4.429	20.45	4.657	0.4682	8.106	0	0.0335	0	100.44
Alpha-North-179	red	41.202	0.1449	19.6416	5.5416	19.569	5.374	0.4601	8.566	0	0.0357	0	100.53
Alpha-North-180	red	41.568	0.144	19.9458	4.7372	20.691	4.916	0.4315	7.327	0.003	0.0264	0.02	99.81
Alpha-North-181	red	41.705	0.0052	20.9625	3.8753	20.42	4.711	0.547	8.182	0.071	0.0271	0.03	100.54
Alpha-North-182	red	41.322	0.2213	19.3827	5.6508	19.984	5.304	0.4434	7.869	0	0.0467	0.012	100.23
Alpha-North-183	red	41.514	0.431	20.1717	3.2873	20.17	5.204	0.3585	8.823	0	0.0351	0.041	100.04
Alpha-North-184	red	41.814	0.0657	20.9736	3.7602	21.36	4.111	0.4849	7.355	0.032	0.0309	0.005	99.993
Alpha-North-185	red	37.583	0.0077	21.2594	0.0393	6.376	1.361	0.8778	32.65	0	0.0059	0	100.16
Alpha-North-186	red	41.232	0.3189	18.7891	6.2793	19.874	5.472	0.3921	7.47	0	0.0481	0	99.876
Alpha-North-187	red	41.487	0.215	19.6151	5.3125	20.116	5.2	0.4639	7.814	0.016	0.0493	0	100.29
Alpha-North-188	red	41.432	0.171	20.4121	4.2481	20.133	4.978	0.3698	8.125	0	0.0491	0	99.917
Alpha-North-189	red	41.644	0	21.2364	3.6573	20.636	4.449	0.5701	8.048	0.033	0.0351	0.002	100.31
Alpha-North-190	red	41.294	0.2443	19.5127	5.5548	20.075	5.273	0.4409	7.832	0	0.0351	0.007	100.27
Alpha-North-191	red	41.15	0.1359	19.0539	6.2853	19.573	5.602	0.5044	7.854	0	0.0451	0	100.2
Alpha-North-192	red	41.423	0.1431	18.9266	6.3178	19.753	5.476	0.4234	7.58	0	0.0456	2E-04	100.09
Alpha-North-193	red	41.192	0.2162	19.4501	5.6049	19.876	5.311	0.5036	7.827	0	0.0321	0.007	100.02
Alpha-North-194	red	41.625	0.0157	20.4681	4.4737	20.3	4.82	0.5011	8.087	0.046	0.0313	0	100.37
Alpha-North-195	red	41.191	0.1114	19.548	5.5801	19.545	5.44	0.4434	8.278	0.059	0.0236	0.001	100.22
Alpha-North-196	red	41.909	0.0181	20.9518	3.9732	20.25	4.744	0.4718	7.97	0	0.0219	0.004	100.31
Alpha-North-197	red	41.229	0.2206	19.7272	5.3084	20.007	5.257	0.485	7.76	0.044	0.0464	0.029	100.11
Alpha-North-198	red	41.732	0.0399	20.7949	4.1936	20.369	4.589	0.4871	7.934	0	0.0314	0	100.17
Alpha-North-199	red	41.047	0.2175	18.9659	6.0673	19.496	5.639	0.4621	8	0	0.0378	0	99.933
Alpha-North-200	red	41.39	0.0995	20.5537	4.1506	20.026	4.975	0.6196	8.038	1E-04	0.0467	0.021	99.921
Alpha-North-201	red	41.409	0.218	19.5359	5.6828	20.069	5.424	0.443	8.012	0.034	0.0501	0.018	100.9
Alpha-North-202	red	41.541	0.02	20.7437	3.8569	20.295	4.64	0.5247	8.024	0.011	0.0327	0	99.689
Alpha-North-203	red	41.371	0.2879	18.8697	6.1485	19.973	5.519	0.3896	7.645	0.044	0.0534	0	100.3
Alpha-North-204	red	41.383	0.0375	20.5582	4.5701	20.257	4.904	0.5327	7.997	0	0.0385	0	100.28
Alpha-North-205	red	41.289	0.0157	20.4439	4.4987	20.176	4.946	0.4643	7.987	0.02	0.0329	0	99.874
Alpha-North-206	red	41.218	0.2028	19.4579	5.4311	19.992	5.261	0.4185	7.884	0.066	0.0429	0	99.974
Alpha-North-207	red	41.361	0.038	20.7345	4.3578	19.901	4.787	0.4799	8.432	0	0.0318	0	100.12
Alpha-North-208	red	41.434	0.01	20.7835	4.1305	20.578	4.77	0.5233	8.039	0.006	0.0102	0	100.28
Alpha-North-209	orange	41.668	0.2134	21.0307	3.572	20.315	4.858	0.4492	8.498	0.003	0.0353	0	100.64
Alpha-North-210	orange	41.208	0.1057	19.4368	5.4698	19.399	5.387	0.5263	8.342	0.013	0.0344	0.012	99.933
Alpha-North-211	orange	41.771	0.3839	20.4399	3.5368	20.387	4.597	0.4146	8.958	0.019	0.0565	0.037	100.6
Alpha-North-212	orange	41.197	0.1475	19.2523	5.6475	19.579	5.479	0.3954	8.455	0	0.0546	0	100.21
Alpha-North-213	orange	41.378	0.2431	19.7029	5.2713	19.982	5.213	0.4227	7.868	0.011	0.0394	0.019	100.15
Alpha-North-214	orange	41.622	0.1838	19.8824	5.0098	20.542	5.25	0.4163	7.222	0.012	0.0481	0	100.19
Alpha-North-215	orange	41.888	0.231	20.8344	4.0047	20.283	4.844	0.4378	8.103	0	0.0373	0	100.66
Alpha-North-216	orange	40.874	0.1763	17.7877	7.8178	19.074	6.279	0.5014	7.694	0	0.0241	0	100.23
Alpha-North-217	orange	41.205	0.1255	18.5861	6.7985	19.892	5.454	0.4437	7.448	0	0.0355	0	99.989
Alpha-North-218	orange	41.111	0.1854	19.0217	6.1771	19.661	5.641	0.4467	8.108	0	0.0399	0.011	100.4
Alpha-North-219	orange	41.682	0.0243	21.1329	3.7952	20.649	4.542	0.5149	8.089	0.016	0.0406	0.006	100.49
Alpha-North-221	orange	41.253	0.2818	18.718	6.2774	19.912	5.384	0.4127	7.704	0	0.0446	0.013	100
Alpha-North-222	orange	41.447	0.0542	20.8699	4.0268	20.365	4.678	0.562	8.175	0.033	0.0262	0	100.24
Alpha-North-223	orange	41.203	0.2404	19.7733	5.3341	20.072	5.273	0.4572	7.886	0	0.0433	0.023	100.31
Alpha-North-224	orange	41.226	0.1219	19.4309	5.6303	19.591	5.474	0.4354	8.365	0.057	0.0381	0	100.37
Alpha-North-225	orange	41.5	0.2679	19.3737	5.6126	19.662	5.252	0.4359	7.583	0	0.0385	0	99.725
Alpha-North-227	orange	41.027	0.2157	17.7502	7.6297	19.723	5.346	0.4477	7.573	0.005	0.0631	0.022	99.803
Alpha-North-228	orange	41.408	0.2285	19.6059	5.4214	19.939	5.267	0.4587	7.911	0.006	0.0392	0	100.28
Alpha-North-229	orange	41.131	0.2149	19.7472	4.9989	20.062	5.179	0.416	7.819	0	0.0466	7E-04	99.614
Alpha-North-230	orange	41.125	0.0157	19.9732	5.2836	19.912	5.194	0.4829	8.146	0	0.0271	0	100.16
Alpha-North-232	orange	41.28	0.1328	19.4245	5.544	19.516	5.507	0.4754	8.471	2E-04	0.0479	0.016	100.41
Alpha-North-233	orange	41.605	0.0148	21.1199	3.5631	18.5	6.249	0.5977	8.904	0	0.0098	0	100.56

Alpha-North Chromite

Sample	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Alpha-North-1	0.0224	0.1548	0.014	0.0228	6.3117	57.2728	0.25	9.8121	0	0.241	25.62	0.141	0.217	100.08	8.210773	18.23	100.9
Alpha-North-2	0.022	2.8902	0.0413	0.0059	0.4631	54.7048	0.59	7.5919	0.041	0.5524	32.707	0.162	0.183	99.955	10.38494	23.36	101
Alpha-North-3	0.0339	0.3715	0	0.023	9.6037	56.4416	0.22	11.187	0.011	0.3442	22.014	0.042	0.069	100.36	5.618533	16.96	100.92
Alpha-North-7	0.0196	0.0398	0.0012	0.0353	11.3286	56.4432	0.37	11.198	0.023	0.3729	20.476	0.081	0.154	100.54	3.857218	17.01	100.93
Alpha-North-8	0.0077	0.1633	0	0.0427	10.5416	57.1716	0.31	11.729	0.034	0.4151	20.063	0.124	0.091	100.69	4.414505	16.09	101.13
Alpha-North-9	0.0403	1.0734	0	0.0134	5.0725	56.3381	0.34	9.3706	8E-04	0.5493	27.409	0.111	0.203	100.52	8.717266	19.57	101.39
Alpha-North-12	0.017	1.7263	0.0126	0	2.7672	52.6829	0.42	7.7263	0.077	0.5439	33.144	0.203	0.105	99.425	12.34988	22.03	100.66
Alpha-North-13	0.05	0.4624	0.0128	0.0216	7.6386	54.5948	0.4	10.065	0.055	0.4633	25.674	0.122	0.162	99.722	8.236508	18.26	100.55
Alpha-North-14	0	0.8728	0.0178	0.0422	5.9816	55.7244	0.19	9.9534	0.037	0.4356	26.404	0.097	0.074	99.83	8.933691	18.36	100.72
Alpha-North-21	0.0055	2.4864	0.01	0.0105	0.9111	57.9315	0.34	8.4086	0.004	0.4588	28.918	0.116	0.173	99.773	8.26619	21.48	100.6
Alpha-North-22	0.007	3.3686	0	0.0331	1.4821	52.7707	0.45	8.3618	0.025	0.7241	32.005	0.17	0.239	99.636	10.8926	22.2	100.73
Alpha-North-23	0.0286	1.0028	0.028	0	6.8573	55.3642	0.33	10.682	0.03	0.4933	24.798	0.135	0.098	99.846	7.963806	17.63	100.64
Alpha-North-32	0.0295	3.1483	0	0.0346	3.7246	54.172	0.26	9.6674	0.062	0.2678	28.263	0.212	0.045	99.886	8.41971	20.69	100.73
Alpha-North-36	0	0.8461	0.0174	0	0.414	58.6968	0.56	6.7791	0.024	0.5809	31.34	0.156	0.165	99.578	9.77767	22.54	100.56
Alpha-North-40	0.0086	0.3217	0.0167	0	10.4796	48.7796	0.24	8.6456	0.06	0.5512	30.207	0.148	0.233	99.692	11.01116	20.3	100.8
Alpha-North-44	0.0028	0.5359	0.0039	0.0349	13.0734	47.9356	0.05	10.385	0	0.3771	26.649	0.163	0.229	99.44	9.534694	18.07	100.39
Alpha-North-49	0.0045	1.0449	0.0125	0	0.2874	58.7672	0.45	7.4972	0.012	0.804	30.806	0.067	0.175	99.927	10.43017	21.42	100.97
Alpha-North-54	0.0173	0.2241	0.017	0.0221	17.7969	50.9906	0.44	11.879	0.057	0.362	18.482	0.05[illegible]	0.228	100.57	1.468042	17.16	100.72
Alpha-North-57	0	0	0.0167	0.0089	12.3159	54.4111	0.31	11.139	0.064	0.1923	21.039	0.10[illegible]	0.075	99.677	4.472793	17.01	100.13
Alpha-North-60	0.0212	0.0274	0	0	17.0154	49.2636	0.2	10.987	0.059	0.4535	21.933	0.11[illegible]	0.206	100.28	4.749655	17.66	100.76
Alpha-North-61	0.0161	0.3824	0.0509	0.002	6.5216	57.297	0.17	10.427	0.026	0.4044	24.199	0.14[illegible]	0.217	99.855	7.837188	17.15	100.64
Alpha-North-62	0.0342	5.7774	0	0.0067	0.2885	21.0011	0.87	4.2278	0.021	0.4011	63.133	0.1[illegible]	0.146	96.017	35.80034	30.92	99.604
Alpha-North-65	0.019	0.0916	0.0181	0.0621	12.3319	52.3237	0.16	10.629	0.005	0.3553	24.105	0.10[illegible]	0.343	100.55	7.139864	17.68	101.26
Alpha-North-66	0.0108	2.4448	0.0037	0.0646	0.7782	58.215	0.45	8.654	0.092	0.3654	27.98	0.15[illegible]	0.024	99.239	7.59437	21.15	100

Alpha-North Ilmenite

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
Alpha-North-1	core	0.022	51.198	0.0782	0.0168	0.0782	3.003	0.07	10.09	0	0.3495	33.736	0.085	0.093	98.82	6.625676	27.77	99.484	56.9739	36.8976	6.12846	100
Alpha-North-2	core	0.0193	51.066	0.194	0.0084	0.0462	3.0269	0.1	9.9115	0	0.4336	33.793	0.109	0.095	98.804	6.408059	28.03	99.446	57.694	36.3646	5.941443	100
Alpha-North-3	core	0.0134	51.32	0.1311	0.0386	0.1031	3.5605	0.07	10.338	0.007	0.3403	32.869	0.176	0	98.966	5.968727	27.5	99.564	56.5362	37.9118	5.551978	100
Alpha-North-4	core	0.008	51.961	0.1421	0.0296	0.0493	3.1528	0.03	10.456	0.07	0.3607	32.688	0.168	0	99.116	5.536167	27.71	99.671	56.7134	38.165	5.12161	100
Alpha-North-5	core	0.0175	51.745	0.0977	0	0.1429	3.5398	0	10.553	0.006	0.4275	32.357	0.127	0.005	99.019	5.635649	27.29	99.583	56.1139	38.6718	5.214264	100
Alpha-North-6	core	0.0187	51.609	0.094	0	0.0911	3.4559	0.2	10.771	0.062	0.4007	32.483	0.136	0.085	99.406	6.133091	26.96	100.02	55.122	39.2374	5.640625	100
Alpha-North-7	core	0.0286	50.869	0.1545	0	0.0743	2.9198	0.1	9.6102	0.01	0.2964	34.859	0.08	0.008	99.01	6.976942	28.58	99.709	58.5138	35.06	6.426261	100
Alpha-North-8	core	0.0136	51.386	0.1185	0	0.014	2.6965	0.27	9.4945	0.032	0.3773	35.097	0.073	0.047	99.62	6.414094	29.33	100.26	59.689	34.4374	5.873624	100
Alpha-North-9	core	0	51.818	0.0915	0	0.1221	2.96	0	10.491	0.019	0.3275	33.021	0.153	0.061	99.065	6.197531	27.44	99.685	56.0916	38.2096	5.69873	100
Alpha-North-10	core	0.0147	51.837	0.1027	0.0026	0.0851	2.9223	0	10.514	0.038	0.4021	32.727	0.167	0.034	98.846	5.962088	27.36	99.443	56.0891	38.4103	5.50066	100
Alpha-North-11	core	0.0039	51.524	0.1124	0.0122	0.0609	2.9066	0.03	10.038	0.027	0.4072	33.943	0.094	0.016	99.175	6.521411	28.07	99.828	57.4049	36.5861	6.009002	100
Alpha-North-12	core	0.0045	51.487	0.1397	0.0335	0.0436	3.1764	0.09	10.132	0.027	0.3862	33.604	0.169	0	99.292	6.254499	27.98	99.919	57.2422	36.9733	5.784492	100
Alpha-North-13	core	0.0108	52.482	0.0964	0.0857	0.0954	2.7127	0.04	10.139	0	0.364	33.955	0.093	0.013	100.09	5.625475	28.89	100.65	58.3002	36.5267	5.173097	100
Alpha-North-14	core	0.0088	50.92	0.0767	0.0006	0.0195	3.2072	0	9.9323	0	0.3983	33.672	0.161	0.071	98.467	6.789917	27.56	99.148	57.0449	36.6321	6.322934	100
Alpha-North-15	core	0.02	51.573	0.1101	0.0174	0.1614	3.4359	0.05	10.443	0.059	0.3289	32.744	0.118	0.156	99.216	6.004687	27.34	99.817	56.1797	38.2553	5.565055	100
Alpha-North-16	core	0.0074	51.677	0.1027	0.0471	0.1112	3.5447	0.04	10.511	0.018	0.2042	32.864	0.189	0	99.316	5.914864	27.54	99.908	56.2392	38.2896	5.471244	100
Alpha-North-17	core	0.0021	51.566	0.1113	0.0773	0.0821	3.2473	0.02	10.237	0	0.4546	33.31	0.037	0	99.145	6.083043	27.84	99.754	56.9497	37.3896	5.660693	100
Alpha-North-18	core	0.0268	51.957	0.1113	0.0193	0.1252	3.229	0	10.269	0	0.3547	33.585	0.123	0.082	99.882	6.163648	28.04	100.5	57.0753	37.2646	5.660047	100
Alpha-North-19	core	0.0141	52.107	0.1224	0.0309	0.0517	2.7636	0.12	10.047	0.027	0.4232	33.803	0.033	0.092	99.635	5.630176	28.74	100.2	58.4116	36.4157	5.172722	100
Alpha-North-20	core	0	51.082	0.1199	0.011	0.0434	2.9921	0.02	9.9762	0.005	0.2464	33.958	0.12	0.09	98.663	6.759275	27.88	99.34	57.2357	36.5113	6.252981	100
Alpha-North-21	core	0.0089	51.596	0.0916	0	0.0901	3.5981	0.03	10.559	0.005	0.2744	32.576	0.172	0	99.002	5.877401	27.29	99.591	55.9763	38.5995	5.424248	100
Alpha-North-22	core	0.0279	51.661	0.1585	0	0.0787	2.8084	0	10.172	0.026	0.4048	33.84	0.061	0	99.238	6.453947	28.03	99.885	57.1369	36.9449	5.918242	100
Alpha-North-23	core	0.0063	48.591	0.2063	0	0.0112	3.5302	0.27	8.3925	0.022	0.3273	37.339	0.097	0	98.793	9.329421	28.94	99.728	60.1792	31.094	8.726797	100
Alpha-North-24	core	0.01	51.358	0.0594	0.0749	0.0927	3.1607	0	10.515	0.039	0.3797	33.241	0.202	0.164	99.296	7.161582	26.8	100.01	54.8875	38.451	6.661514	100
Alpha-North-25	core	0.0209	51.227	0.1263	0	0.0951	2.7703	0	9.774	0.027	0.3791	34.584	0.088	0.048	99.14	7.022307	28.26	99.843	57.8708	35.6606	6.468623	100
Alpha-North-26	core	0.018	49.185	0.0988	0	0.0139	2.7417	0	8.2014	0.038	0.4366	37.606	0.108	0.076	98.523	9.472547	29.08	99.472	60.6398	30.4739	8.886281	100
Alpha-North-27	core	0.0427	51.21	0.0892	0	0.1132	2.8988	0.02	9.8992	0.042	0.3628	34.016	0.099	0	98.793	6.604954	28.07	99.455	57.6628	36.2334	6.103708	100
Alpha-North-28	core	0.0014	51.95	0.114	0.0271	0.1002	3.5392	0.06	10.707	0	0.2818	32.268	0.153	0	99.202	5.363898	27.44	99.739	56.0523	38.9972	4.950483	100
Alpha-North-29	core	0.0288	51.813	0.0966	0.0484	0.1617	3.0709	0	10.396	0	0.3601	32.797	0.116	0.016	98.904	5.611762	27.75	99.466	56.8161	37.976	5.207927	100
Alpha-North-30	core	0	48.805	0.1965	0	0	3.6861	0.21	8.333	0	0.3265	37.362	0	0.071	98.99	9.083165	29.19	99.9	60.6526	30.8558	8.491536	100
Alpha-North-31	core	0.0221	52.07	0.1351	0	0.0428	2.8782	0.13	10.84	0	0.2807	32.579	0.141	0	99.119	5.684174	27.46	99.689	55.6652	39.1516	5.183194	100
Alpha-North-32	core	0.003	49.565	0.1473	0.0394	0.0204	3.0844	0.33	9.1088	0.034	0.2165	35.707	0.117	0.037	98.409	7.85165	28.64	99.196	59.1323	33.5417	7.326037	100
Alpha-North-33	core	0	47.968	0.2793	0.031	0	3.1786	0.2	7.7032	0.015	0.2716	39.557	0.021	0	99.225	10.91888	29.73	100.32	61.437	28.3844	10.17861	100
Alpha-North-34	core	0.0156	51.727	0.0904	0.0142	0.0879	2.8943	0	10.231	0	0.277	33.718	0.162	0.058	99.275	6.440442	27.92	99.921	56.912	37.1708	5.917183	100
Alpha-North-35	core	0.0078	50.879	0.0545	0	0.1132	3.3811	0.17	10.271	0.027	0.2418	33.2	0.183	0.069	98.597	6.591166	27.27	99.258	56.1809	37.7097	6.109372	100
Alpha-North-36	core	0.0248	52.854	0.1225	0.0161	0.156	2.3852	0	10.507	0	0.2956	33.08	0.134	0.132	99.707	5.163672	28.43	100.22	57.45	37.8437	4.706264	100
Alpha-North-37	core	0.0202	52.034	0.1152	0.011	0.0446	3.4484	0	10.676	0.028	0.3947	32.299	0.143	0	99.213	5.499693	27.35	99.764	55.9794	38.9476	5.073004	100
Alpha-North-38	core	0.011	51.06	0.166	0	0.0795	2.7926	0.21	10.02	0.017	0.3345	34.313	0.134	0.061	99.198	6.968617	28.04	99.896	57.1912	36.4147	6.394123	100
Alpha-North-39	core	0.0097	52.846	0.0966	0	0.1832	3.4522	0	10.201	0.014	0.3629	32.916	0.141	0.108	100.33	4.526568	28.84	100.78	58.7931	37.0557	4.151273	100
Alpha-North-40	core	0.0239	51.364	0.0869	0.0265	0.0919	3.3495	0	10.077	0.038	0.2765	33.548	0.185	0.087	99.155	6.400868	27.79	99.796	57.1231	36.9357	5.941171	100
Alpha-North-41	core	0.0157	50.794	0.1288	0.0123	0.0586	3.042	0	9.8569	0	0.254	34.65	0.094	0.074	98.98	7.541248	27.86	99.735	57.0616	35.9803	6.958144	100
Alpha-North-43	core	0.0137	49.581	0.1757	0.0258	0.0146	2.8521	0.1	8.7956	0.029	0.4537	36.67	0.09	0.113	98.915	8.958136	28.61	99.812	59.1918	32.4474	8.360788	100
Alpha-North-44	core	0.0231	50.812	0.1028	0.0355	0.0674	2.7488	0	9.5332	0	0.3851	35.017	0.131	0.116	98.971	7.522693	28.25	99.725	58.0653	34.9483	6.986413	100
Alpha-North-45	core	0.0115	51.782	0.0978	0	0.1214	3.0961	0.22	10.471	0	0.3691	32.797	0.223	0.013	99.203	5.584032	27.77	99.762	56.7423	38.1248	5.132892	100
Alpha-North-46	core	0	51.527	0.1152	0	0.0562	3.4012	0	10.371	0	0.3471	32.685	0.127	0.029	98.658	5.784728	27.48	99.238	56.585	38.0558	5.35917	100
Alpha-North-47	core	0.0009	52.225	0.0806	0.0161	0.1116	2.7154	0.06	10.237	0	0.3303	33.515	0.186	0.082	99.56	5.764309	28.33	100.14	57.6037	37.1101	5.286184	100
Alpha-North-48	core	0.0301	51.352	0.0841	0	0.0239	3.1512	0.07	10.155	0.012	0.3967	33.681	0.141	0.013	99.11	6.586	27.76	99.77	56.8589	37.0709	6.070131	100
Alpha-North-49	core	0.031	51.451	0.1139	0	0.0014	2.5287	0.09	9.6621	0.055	0.372	35.332	0.134	0.048	99.818	7.332266	28.73	100.55	58.3425	34.9595	6.698035	100
Alpha-North-50	core	0	52.843	0.1412	0.0407	0.113	3.0672	0	10.492	0.018	0.3049	33.043	0.113	0.114	100.29	5.090884	28.46	100.8	57.5204	37.8197	4.659944	100
Alpha-North-51	core	0.011	51.181	0.0805	0.0794	0.0677	3.1192	0.03	10.26	0	0.3178	33.829	0.085	0	99.061	6.99349	27.54	99.762	56.1596	37.3587	6.481744	100
Alpha-North-52	core	0	48.109	0.3364	0.051	0	2.2383	0.03	7.4879	0.01	0.5129	40.083	0.158	0.126	99.142	11.68597	29.57	100.31	61.336	27.7109	10.95313	100
Alpha-North-53	core	0.0062	51.193	0.13	0.0226	0	2.6028	0.21	9.4751	0.019	0.3752	35.394	0.087	0.026	99.542	6.957753	29.13	100.24	59.2557	34.3593	6.385007	100
Alpha-North-54	core	0.0265	51.283	0.0681	0.0561	0.0594	2.7483	0.08	9.7307	0	0.3917	34.625	0.116	0.026	99.212	6.794041	28.51	99.892	58.2435	35.4671	6.289371	100
Alpha-North-55	core	0.0013	51.134	0.052	0.0704	0.0527	2.6368	0.03	9.7068	0	0.433	34.948	0.084	0	99.148	7.369814	28.32	99.887	57.8053	35.3682	6.826465	100
Alpha-North-56	core	0.0184	51.994	0.0878	0.0058	0.1021	2.7622	0	10.394	0	0.3064	33.498	0.084	0	99.252	6.150493	27.96	99.868	56.7701	37.6076	5.622293	100
Alpha-North-57	core	0	51.588	0.0719	0	0.1089	2.9657	0	10.359	0.017	0.3262	33.172	0.148	0.056	98.813	6.342889	27.46	99.448	56.3044	37.8453	5.850314	100
Alpha-North-58	core	0.0138	51.025	0.1425	0.0077	0.0404	3.8206	0	10.071	0.054	0.3915	33.132	0.197	0.024	98.92	6.329415	27.44	99.554	56.8788	37.2116	5.909616	100
Alpha-North-59	core	0.0015	51.65	0.0273	0.0685	0.02	2.619	0.04	9.8391	0.008	0.3644	35.05	0.066	0.024	99.777	7.180161	28.59	100.5	57.8638	35.5426	6.593676	100
Alpha-North-60	core	0.0144	51.294	0.1078	0	0.1548	3.3495	0	10.301	0.025	0.365	33.06	0.133	0	98.804	6.31853	27.37	99.437	56.3562	37.7914	5.852359	100
Alpha-North-61	core	0.0206	50.645	0.0396	0.053	0.1072	2.8578	0.16	9.7472	0.014	0.3755	34.702	0.139	0.111	98.973	7.562265	27.9	99.73	57.2702	35.7013	7.028508	100
Alpha-North-62	core	0.0139	51.506	0.1239	0.0175	0	2.8552	0	10.141	0.038	0.2924	33.964	0.17	0.085	99.206	6.823091	27.82	99.89	56.8089	36.9095	6.281685	100
Alpha-North-63	core	0.012	51.537	0.0806	0	0.0969	3.4411	0	10.202	0	0.2151	33.04	0.11	0	98.735	5.665916	27.94	99.302	57.4099	37.3526	5.237416	100
Alpha-North-64	core	0.011	51.98	0.0794	0	0.1226	2.7523	0	10.125	5E-04	0.3469	33.888	0.157	0.032	99.494	6.244973	28.27	100.12	57.5484	36.7317	5.719842	100
Alpha-North-65	core	0.0188	50.356	0.172	0.0568	0.0287	2.9212	0	8.1763	0.022	0.4484	37.911	0.049	0.066	100.22	8.379429	30.37	101.06	62.2973	29.9225	7.780251	100
Alpha-North-66	core	0.0116	51.422	0.1451	0.0271	0.0797	3.9156	0	10.433	0.044	0.42	31.967	0.11	0.106	98.68	5.344268	27.16	99.216	56.3728	38.6148	5.01242	100
Alpha-North-67	core	0.0112	52.586	0.0707	0.0704	0.1255	3.1301	0	10.287	0	0.2627	33.223	0.094	0.005	99.866	4.992946	28.73	100.37	58.2009	37.1948	4.604286	100
Alpha-North-68	core	0.0182	51.84	0.1129	0.0103	0.1295	2.8	0	10.162	0	0.4218	33.322	0.101	0.042	98.961	5.806416	28.1	99.542	57.5452	37.0964	5.358345	100
Alpha-North-69	core	0.0271	48.688	0.0978	0	0.0066	3.0167	0.1	8.3689	0	0.3574	37.877	0.075	0.003	98.616	10.16647	28.73	99.635	59.5833	30.9303	9.486339	100
Alpha-North-70	core	0.0066	51.012	0.1489	0.0162	0	2.7495	0	9.6921	0	0.343	34.955	0.157	0	99.08	7.415894	28.28	99.823	57.8337	35.3304	6.835884	100
Alpha-North-71	core	0	50.787	0.0943	0	0.0626	2.7802	0	9.5307	0	0.3157	35.053	0.08	0	98.703	7.403844	28.39	99.445	58.2912	34.8698	6.83902	100
Alpha-North-72	core	0.0146	51.293	0.0956	0.0381	0.0988	3.5915	0	10.362	0.06	0.2396	33.201	0.143	0.064	99.2	6.565747	27.29	99.858	55.9934	37.9155	6.091165	100
Alpha-North-73	core	0.0116	51.829	0.082	0	0.1689	2.9211	0	10.802	0.037	0.2321	32.989	0.19	0.053	99.316	6.712206	26.95	99.988	54.755	39.1093	6.135622	100
Alpha-North-74	core	0.0157	51.974	0.1055	0.0427	0.1597	2.7831	0	10.073	0	0.2771	33.985	0.122	0.034	99.572	6.072339	28.52	100.18	57.9263	36.4913	5.58237	100
Alpha-North-75	core	0.0137	51.104	0.1414	0	0.0371	2.9644	0.26	9.9372	0.02	0.3949	33.935	0.041	0.154	99.003	6.345175	28.23	99.639	57.8534	36.2954	5.851208	100
Alpha-North-76	rim	0.0032	51.864	0.1677	0	0.0819	2.9163	0.16	10.79	0.022	0.3769	33.012	0.131	0	99.526	6.334187	27.31	100.16	55.2996	38.9305	5.76991	100
Alpha-North-77	core	0.0243	51.69	0.1006	0	0.1552	2.9243	0	10.111	0.049	0.3167	33.548	0.136	0.074	99.129	6.14128	28.02	99.744	57.4181	36.9204	5.661476	100
Alpha-North-78	rim	0	52.136	0.0769	0	0.0624	2.7573	0.13	10.159	0	0.35	33.761	0.124	0	99.556	5.741486	28.59	100.13	58.0227	36.7358	5.241552	100
Alpha-North-79	core	0.0118	51.512	0.0707	0.0071	0.0746	2.8421	0	10.103	0	0.2869	33.841	0.145	0	98.894	6.509092	27.98	99.546	57.2013	36.807	5.991729	100
Alpha-North-80	rim	0.0141	54.224	0.1032	0.097	0.0205	3.9612	0	12.369	0.03	0.4172	28.349	0.205	0.141	99.931	2.466962	26.13	100.18	52.9283	44.754	2.317711	100
Alpha-North-81	core	0	49.23	0.2183	0.0543	0.0132	2.8227	0.05	8.5584	0	0.3817	37.777	0.125	0.108	99.338	10.01386	28.77	100.34	59.2334	31.442	9.324621	100
Alpha-North-82	rim	0.0229	52.464	0.134	0.0084	0.044	3.0367	0	10.415	0.02	0.3665	33.231	0.101	0	99.843	5.476608	28.3	100.39	57.3722	37.6267	5.001081	100
Alpha-North-83	core	0	51.83	0.0981	0.0265	0.1048	3.0184	0	10.333	0.008	0.4001	33.559	0.112	0.077	99.567	6.480262	27.73	100.22	56.4975	37.5407	5.96177	100
Alpha-North-84	rim	0.0176	46.826	0.2231	0.1067	0	2.8391	0.08	7.2897	0.028	0.4724	40.553	0.083	0.05	98.569	12.90818	28.94	99.862	60.5197	27.2327	12.24755	100
Alpha-North-85	core	0.0074	47.596	0.1957	0	0.0408	2.8676	0.23	7.294	0.023	0.4175	39.99	0.089	0.013	98.764	11.28325	29.84	99.894	62.276	27.1287	10.59527	100
Alpha-North-4*	core	0	48.498	0.1215	0.0711	0.022	2.9914	0.21	8.7088	0.032	0.3643	37.89	0.12	0.056	99.084	10.95938	28.03	100.18	57.7489	32.0276	10.22345	100
Alpha-North-10*	core	0.0194	52.096	0.1527	0.0013	0.0727	2.9519	0	10.806	0	0.28	33.486	0.094	0	99.96	6.756278	27.41	100.64	55.1401	38.7432	6.116685	100
Alpha-North-11*	core	0.0084	53.675	0.0895	0.0117	0.3714	2.6797	0.02	12.339	0.018	0.2729	30.902	0.047	0.064	100.5	5.422176	26.02	101.04	51.5693	43.5875	4.843193	100
Alpha-North-15*	core	0	50.696	0.1291	0	0	2.6559	0	10.233	0	0.4356	34.805	0.089	0	99.043	8.712107	26.97	99.916	54.896	37.1245	7.97953	100
Alpha-North-16*	core	0	51.398	0.0733	0.0466	0.1292	3.1303	0.13	11.14	0	0.435	33.013	0.178	0	99.674	7.715189	26.07	100.45	52.7369	40.2029	7.060196	100
Alpha-North-17*	core	0.0144	51.2	0.0757	0.0472	0.1305	3.3535	0.05	11.093	0.032	0.3434	32.994	0.117	0	99.451	7.793773	25.98	100.23	52.7014	40.1464	7.152271	100
Alpha-North-18*	core	0.0215	53.969	0.0781	0	0.1431	3.7928	0	11.079	0.01	0.3032	32.421	0.106	0.124	102.05	4.505093	28.37	102.5	56.5797	39.3776	4.042685	100
Alpha-North-19*	core	0.0205	46.885	0.3928	0.0504	0	2.3437	0.29	7.5864	0.07	0.4533	40.946	0.071	0.071	99.18	13.38415	28.9	100.52	59.6156	27.9162	12.46824	100
Alpha-North-25*	core	0.0168	51.013	0.1079	0.0239	0.0834	2.8538	0	10.48	0	0.3112	33.957	0.098	0.037	98.981	7.83315	26.91	99.766	54.7721	38.0345	7.193356	100

Alpha-North Ilmenite

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikielite	hematite	Total
Alpha-North-26*	core	0.008	51.76	0.0708	0.0188	0.0884	3.0253	0	10.755	0	0.3875	33.55	0.12	0.029	99.813	7.340901	26.94	100.55	54.513	38.7898	6.697201	100
Alpha-North-27*	core	0.0097	51.902	0.0521	0.0498	0.0604	2.7536	0.06	11.043	0.031	0.2738	33.315	0.159	0	99.708	7.327707	26.72	100.44	53.7218	39.6095	6.668654	100
Alpha-North-28*	core	0.0026	51.009	0.0385	0	0.0862	3.5193	0	10.946	0.039	0.3547	32.93	0.164	0	99.089	7.877738	25.84	99.879	52.854	39.8968	7.249191	100
Alpha-North-30*	core	0.0075	51.402	0.1068	0.0369	0.1207	3.0664	0.01	10.816	0.02	0.3168	33.425	0.178	0	99.505	7.588279	26.6	100.27	53.9306	39.1161	6.953281	100
Alpha-North-31*	core	0.0087	51.424	0.1019	0.0091	0.1092	3.4814	0	11.171	0	0.4195	32.682	0.185	0	99.591	7.580045	25.86	100.35	52.5786	40.4803	6.941171	100
Alpha-North-33*	core	0.0226	50.711	0.1068	0.0524	0.0848	2.8306	0	10.206	0	0.3931	34.524	0.097	0.072	99.1	8.320924	27.04	99.934	55.1641	37.1533	7.68266	100
Alpha-North-37*	core	0.0079	50.628	0.17	0	0.0818	2.9518	0.06	10.307	0	0.452	34.613	0.042	0	99.314	8.516948	26.95	100.17	54.8325	37.3713	7.796263	100
Alpha-North-38*	core	0.0084	51.458	0.0806	0.0634	0.0621	2.8193	0.03	10.617	0	0.3696	34.047	0.131	0.037	99.723	7.823589	27.01	100.51	54.558	38.2788	7.163222	100
Alpha-North-39*	core	0.0055	51.833	0.1042	0.0097	0.1454	2.8202	0	10.764	0	0.2745	33.617	0.15	0.005	99.728	7.211808	27.13	100.45	54.734	38.7116	6.554432	100
Alpha-North-41*	core	0.0138	51.358	0.1093	0	0.0223	2.8304	0	10.657	0.016	0.4366	34.108	0.223	0.09	99.865	8.375633	26.57	100.7	53.8647	38.4964	7.638863	100
Alpha-North-42*	core	0.0156	51.515	0.0906	0.0058	0.0084	2.5078	0	10.436	0.003	0.4719	33.904	0.103	0.029	99.091	7.403399	27.24	99.832	55.3992	37.8226	6.778171	100
Alpha-North-43*	core	0.0201	48.309	0.1946	0.0336	0	3.7943	0.1	8.8334	0	0.369	36.843	0.059	0	98.556	10.17842	27.68	99.576	57.6379	32.7979	9.564169	100
Alpha-North-46*	core	0.0148	53.218	0.0659	0.0019	0.1915	2.9615	0	12.915	0.014	0.1466	29.878	0.163	0.045	99.615	5.898933	24.57	100.21	48.9052	45.8108	5.284023	100
Alpha-North-47*	core	0.0054	50.195	0.2026	0.035	0.0602	2.3358	0.16	10.869	0	0.3923	34.895	0.065	0	99.215	10.09497	25.81	100.23	51.8783	38.9623	9.159428	100
Alpha-North-48*	core	0.02	51.948	0.1317	0	0.0741	2.7924	0	11.104	0.039	0.3229	32.913	0.133	0.053	99.53	7.080387	26.54	100.24	53.6049	39.9616	6.43353	100
Alpha-North-50*	core	0	50.269	0.2009	0.0013	0.0557	4.1444	0.03	10.345	0.014	0.2802	33.774	0.202	0	99.317	8.040264	26.54	100.12	54.6158	37.9389	7.445272	100
Alpha-North-51*	core	0.013	51.462	0.0869	0.0382	0.1232	3.1357	0.01	10.853	0.048	0.4008	33.649	0.122	0.058	100	8.000402	26.45	100.8	53.5171	39.1682	7.314654	100
Alpha-North-53*	core	0.0209	51.442	0.1836	0.0498	0.0297	2.9387	0	10.54	0.007	0.3955	34.149	0.091	0.024	99.869	7.704796	27.22	100.64	54.9735	37.9835	7.042992	100
Alpha-North-55*	core	0.0255	51.423	0.0683	0	0.0727	2.9059	0.09	10.911	0	0.3888	32.763	0.129	0.154	98.932	7.081509	26.39	99.641	53.8366	39.664	6.49932	100
Alpha-North-58*	core	0.0171	51.038	0.1526	0.0569	0.0761	3.058	0.09	10.372	0	0.328	34.178	0.113	0	99.48	7.602834	27.34	100.24	55.4641	37.549	6.986901	100
Alpha-North-59*	core	0.0135	51.217	0.1117	0	0.0512	2.8862	0.12	10.551	0.026	0.4522	33.81	0.068	0.029	99.336	7.570179	27	100.09	54.8671	38.2114	6.921596	100
Alpha-North-63*	core	0.0144	52.607	0.2746	0.0647	0.0696	3.5713	0	12.467	0	0.5117	30.336	0.149	0	100.06	6.167469	24.79	100.68	49.7312	44.6497	5.61912	100

* These ilmenite grains were mixed in with the Alpha-North chromite analyses

Alpha-North Pyroxene

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Alpha-North-1	55.452	0.2884	5.2807	1.2596	15.322	14	0.1307	4.76	0.043	4.1357	0.014	100.69
Alpha-North-2	55.474	0.2761	4.7097	1.3348	15.601	15.07	0.1017	4.321	0.039	3.7637	0	100.69
Alpha-North-3	55.109	0.1434	3.0716	1.013	17.094	16.87	0.1573	4.576	0	2.4229	0.032	100.48
Alpha-North-5	55.416	0.2448	4.8241	0.9193	15.981	14.41	0.1465	4.658	0.017	3.7943	0.015	100.43
Alpha-North-7	55.218	0.3184	4.5858	1.471	14.86	15.52	0.1358	4.253	0.032	4.0119	0.001	100.41
Alpha-North-9	55.147	0.3153	5.1511	1.3049	15.24	14.29	0.1374	4.751	0	4.1973	0	100.54
Alpha-North-10	53.422	0.1176	0.2843	2.0949	16.084	22.67	0.0681	2.313	0.045	1.4179	0.151	98.666
Alpha-North-11	54.907	0.2556	3.9272	1.2637	15.284	16.46	0.1179	4.232	0.084	3.4766	0.012	100.02
Alpha-North-12	54.969	0.1881	0.6759	1.7651	16.015	21.87	0.0841	3.366	0.015	1.7244	0	100.68
Alpha-North-14	55.48	0.1159	6.1388	0.9644	14.775	14.18	0.0858	4.303	0.049	4.4676	0.024	100.58
Alpha-North-15	54.718	0.267	4.6373	0.9279	15.471	15.6	0.1108	4.667	0.019	3.5909	0	100.01
Alpha-North-16	54.484	0.1078	1.4195	3.3641	15.239	20.09	0.0948	2.136	0.079	2.6158	0	99.635
Alpha-North-18	54.986	0.2357	2.1182	0.7666	17.576	19.32	0.1559	3.577	0.017	1.5449	0.027	100.32
Alpha-North-19	54.864	0.1873	2.1219	0.751	17.307	19.2	0.1379	3.957	0.085	1.6979	0.026	100.33
Alpha-North-20	54.478	0.1192	0.2806	2.209	16.102	22.77	0.0896	2.272	0.048	1.4853	0	99.853
Alpha-North-21	55.314	0.281	5.1198	1.2458	15.305	14.05	0.1715	4.711	0.051	4.1209	0.035	100.4
Alpha-North-22	54.886	0.1381	3.0931	1.1014	16.844	16.85	0.1485	4.263	0.075	2.6088	0.007	100.02
Alpha-North-23	55.334	0.2286	5.4618	1.1223	15.273	13.92	0.0572	4.436	0.039	4.1446	0.006	100.02
Alpha-North-24	55.155	0.1126	3.1604	1.0192	17.017	16.66	0.1091	4.341	0.017	2.5152	0.042	100.15
Alpha-North-25	54.885	0.2539	4.5496	0.9684	15.445	15.74	0.1126	4.567	0.032	3.5746	0	100.12
Alpha-North-26	55.015	0.2954	5.4101	0.8816	14.296	15.12	0.109	4.791	0	4.16	0	100.08
Alpha-North-27	54.864	0.2514	4.5619	0.9187	15.275	15.7	0.1305	4.513	0.024	3.5949	0.017	99.851
Alpha-North-28	55.076	0.3547	5.1533	1.3133	14.477	14.8	0.1376	4.447	0.043	4.2456	0.022	100.07
Alpha-North-29	54.784	0.285	5.1192	1.0869	14.773	15.28	0.1376	4.939	0.021	3.9787	0	100.41
Alpha-North-30	55.15	0.1014	3.0365	0.9295	17.367	16.73	0.1095	4.478	0.019	2.4378	0.034	100.39
Alpha-North-31	54.444	0.1645	0.5616	2.0574	16.193	22.22	0.086	2.644	0.023	1.6132	0.003	100.01
Alpha-North-32	55.216	0.2439	5.3866	1.1691	15.11	14.1	0.0823	4.375	0.058	4.1488	0	99.892
Alpha-North-33	54.685	0.1401	1.3532	3.2482	15.339	20.28	0.102	2.381	0.04	2.54	0	100.11
Alpha-North-34	55.466	0.2311	5.9274	0.7328	14.518	14.64	0.1304	4.998	0.088	4.3161	0.024	101.07
Alpha-North-35	55.082	0.3252	5.1872	0.8343	14.566	14.95	0.1323	5.032	0.039	3.9809	0.021	100.15
Alpha-North-36	55.303	0.2298	5.1023	1.0576	15.621	14.25	0.1662	4.538	0.087	4.0404	0.002	100.4
Alpha-North-37	55.448	0.229	5.0939	1.057	15.595	14.18	0.0984	4.317	0.013	3.9261	0.018	99.973
Alpha-North-38	54.993	0.2387	4.9239	0.8799	15.474	14.64	0.0948	4.525	0	3.8529	0.022	99.645
Alpha-North-39	55.299	0.2408	6.236	0.8557	14.694	13.74	0.1127	4.825	0.026	4.6055	0.016	100.65
Alpha-North-40	54.66	0.0672	2.8144	4.9394	13.167	16.72	0.0625	2.952	0.024	4.4145	0	99.82
Alpha-North-41	55.216	0.2444	4.9111	1.016	15.907	14.18	0.0716	4.746	0.023	3.8078	0	100.12
Alpha-North-42	54.92	0.303	5.467	0.8173	14.59	15.02	0.1055	4.73	0.022	4.131	0.019	100.13
Alpha-North-43	55.077	0.2125	4.4551	1.4971	16.072	14.82	0.1038	4.4	0.024	3.5249	0.02	100.21
Alpha-North-44	54.999	0.329	4.84	1.3975	14.986	15.41	0.1145	4.454	0	4.0543	0	100.58
Alpha-North-45	55.197	0.2071	4.9766	0.8713	15.59	14.77	0.1002	4.672	0.017	3.879	0.038	100.32
Alpha-North-46	54.809	0.1619	1.9403	0.747	17.982	19.27	0.1775	3.796	0.139	1.5266	0.015	100.56
Alpha-North-48	54.999	0.2969	5.5233	0.8111	14.304	15.03	0.1359	4.986	0.019	4.13	0.007	100.24
Alpha-North-49	55.422	0.2324	5.3337	1.2287	15.254	14.18	0.1324	4.51	0.073	4.1147	0.023	100.51
Alpha-North-50	54.954	0.2652	4.2797	0.9461	15.337	16.03	0.111	4.42	0.019	3.4882	0.052	99.904
Alpha-North-53	55.095	0.2893	5.8389	0.8691	14.393	14.8	0.1253	4.659	0.074	4.3967	0.015	100.55
Alpha-North-54	54.661	0.2148	0.7131	1.677	15.85	21.83	0.0413	3.347	0.011	1.698	0.015	100.06
Alpha-North-55	54.91	0.2316	6.0313	0.5862	14.164	14.87	0.1253	4.831	0.053	4.3396	0.019	100.16
Alpha-North-56	54.538	0.1533	0.5383	1.7868	16.333	22.37	0.0898	2.425	0.083	1.4612	0.026	99.806
Alpha-North-58	54.608	0.3591	2.8692	1.4334	14.975	18.52	0.1111	4.113	0	3.0206	0	100.01
Alpha-North-59	55.231	0.2515	6.115	0.6318	14.317	14.49	0.1271	4.868	0.081	4.5288	0.028	100.67
Alpha-North-60	54.878	0.2969	4.5513	0.9818	15.414	15.82	0.1219	4.579	0.002	3.5616	0	100.2
Alpha-North-61	55.257	0.2543	6.2195	0.8213	14.583	13.77	0.1199	4.886	0.064	4.5959	0	100.57
Alpha-North-62	55.168	0.2416	4.6116	0.9238	15.318	15.96	0.1415	4.618	0.102	3.5888	0	100.67
Alpha-North-63	55.396	0.2235	5.8007	0.7359	15.051	14.15	0.1397	4.844	0.032	4.2913	0.001	100.67
Alpha-North-64	55.203	0.3611	4.9805	1.3506	14.478	15.28	0.1003	4.254	0.038	4.1379	0	100.18
Alpha-North-65	54.891	0.1369	6.0401	0.8736	14.655	14.36	0.0842	4.458	0.094	4.3485	0	99.942
Alpha-North-66	55.048	0.2794	4.0007	3.3095	13.742	16.51	0.0949	2.852	0.002	4.4644	0	100.3
Alpha-North-67	54.772	0.3877	2.9765	1.444	15.029	18.4	0.129	4.094	0.076	2.9847	0	100.29
Alpha-North-68	55.242	0.1192	5.6082	0.9621	15.221	14.44	0.1255	4.277	0.077	4.0831	0.024	100.18
Alpha-North-69	55.274	0.2103	4.8991	0.9597	15.463	14.71	0.0842	4.666	0	3.875	0.002	100.15
Alpha-North-70	55.5	0.254	4.9771	1.216	15.575	14.11	0.1451	4.453	0.057	3.9875	0.032	100.3
Alpha-North-71	54.901	0.1728	1.9514	3.5172	15.107	19.81	0.043	2.199	0.062	2.827	0	100.6
Alpha-North-72	54.332	0.2846	3.2765	4.7138	13.852	15.27	0.1482	3.669	0.026	4.3974	0.023	99.99
Alpha-North-73	55.241	0.2311	6.3908	0.6925	14.396	14.04	0.1308	4.779	0.012	4.5374	0.015	100.46

Alpha-North Olivine

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Alpha-North-1	40.727	0.037	0.0609	0.0301	48.206	0.034	0.0728	10.65	0.185	0.0022	0.019	100.03
Alpha-North-2	40.277	0.0019	0.0058	0.0146	47.118	0.048	0.1863	12.93	0.261	0.0206	0	100.86
Alpha-North-3	40.814	0.0523	0.0082	0.0113	49.073	0.017	0.1572	9.28	0.327	0.0015	0.002	99.744
Alpha-North-4	40.331	0.0166	0	0.0463	47.187	0.027	0.1652	11.47	0.331	0.0309	0	99.603
Alpha-North-5	40.628	0.0161	0.0151	0.0224	48.073	0.07	0.1653	11.06	0.384	0.0349	0.022	100.49
Alpha-North-6	40.505	0.0189	0	0.0061	47.421	0.04	0.1609	11.65	0.363	0.0233	0.015	100.21
Alpha-North-7	40.43	0.0146	0.0119	0	46.325	0.041	0.1281	12.36	0.329	0.0402	0	99.683
Alpha-North-8	41.081	0	0	0.0108	49.964	0.021	0.113	8.288	0.431	0	0	99.909
Alpha-North-9	40.614	0.0218	0.0112	0.0223	47.807	0.019	0.0983	11.67	0.316	0.0285	0	100.61

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Bravo-1-1	dk purple	41.532	0.0094	20.2454	4.6956	19.484	5.428	0.5801	8.351	0	0.0111	0	100.34
Bravo-1-2	dk purple	40.691	0.4134	16.6767	8.4203	18.262	6.37	0.4191	8.951	0.043	0.0471	0	100.29
Bravo-1-3	dk purple	40.699	0.2436	17.057	8.2448	18.458	6.163	0.415	8.873	0.049	0.0302	0.008	100.24
Bravo-1-4	dk purple	40.531	0.1389	17.0423	8.7113	18.404	6.576	0.4953	7.849	0	0.0225	0.012	99.782
Bravo-1-5	dk purple	40.742	0.0158	17.3313	8.108	18.544	6.962	0.4383	7.786	0.022	0	0.021	99.971
Bravo-1-6	dk purple	40.721	0.0846	17.3644	8.1797	18.624	6.382	0.4284	7.922	0	0.0354	0.006	99.748
Bravo-1-7	dk purple	40.696	0.0275	17.2964	8.0832	18.229	7.086	0.4313	7.804	0.031	0	0	99.684
Bravo-1-8	dk purple	41.484	0.1884	20.3883	4.0964	20.469	4.638	0.384	7.878	0.009	0.0301	0.012	99.576
Bravo-1-9	dk purple	40.517	0.0624	17.3744	8.1562	18.21	7	0.3782	7.548	0.003	0.0047	0	99.253
Bravo-1-10	dk purple	41.179	0.0456	17.5047	7.6476	18.744	6.673	0.4258	7.937	0.041	0.0076	0.002	100.21
Bravo-1-11	dk purple	40.879	0.1237	17.5638	8.2336	19.477	5.777	0.4721	7.316	0	0.044	0	99.886
Bravo-1-12	dk purple	41.245	0.0327	20.109	5.0955	20.409	4.654	0.4958	7.612	0.059	0.005	0	99.716
Bravo-1-13	dk purple	40.58	0.0163	17.2149	8.1122	18.18	7.02	0.3935	7.542	0	0	0	99.059
Bravo-1-14	dk purple	40.659	0.273	16.6782	8.9266	18.949	6.136	0.4197	7.462	0	0.0377	0	99.542
Bravo-1-15	dk purple	41.791	0.2306	20.6543	3.9245	20.504	4.677	0.4093	7.951	0.035	0.0343	0.011	100.22
Bravo-1-16	dk purple	41.78	0.2166	20.5105	3.905	20.467	4.714	0.4066	7.846	0	0.0427	0.004	99.892
Bravo-1-17	dk purple	40.955	0.2256	17.2059	8.2208	19.132	6.169	0.458	7.541	0.026	0.0422	0	99.976
Bravo-1-18	dk purple	40.802	0.2419	17.016	8.0494	19.256	5.96	0.4497	7.601	0.004	0.0327	0	99.413
Bravo-1-19	dk purple	41.275	0.1702	20.0372	4.9186	19.945	5.047	0.5028	8.032	0	0.0468	0	99.975
Bravo-1-20	dk purple	41.518	0.0229	20.0709	5.4877	20.682	4.37	0.4398	7.552	0.038	0.0105	0	100.19
Bravo-1-21	dk purple	41.223	0.0607	18.8584	6.3632	19.886	5.402	0.4465	7.475	0.005	0.0223	0	99.742
Bravo-1-22	dk purple	41.062	0.1413	18.4168	7.0002	19.364	5.761	0.425	7.503	0	0.0285	0.006	99.707
Bravo-1-23	dk purple	41.088	0.1054	18.4043	6.9289	19.36	5.822	0.4249	7.766	0.051	0.0325	0	99.983
Bravo-1-24	dk purple	41.651	0.2103	19.3094	4.9223	20.416	5.423	0.36	7.591	0	0.0238	0	99.907
Bravo-1-25	dk purple	40.86	0	17.1741	8.1719	18.336	7.058	0.423	7.577	0.012	0.0091	0	99.621
Bravo-1-26	purple	41.672	0.022	20.7136	4.1288	19.575	5.212	0.5259	8.145	0.003	0.0109	0	100.01
Bravo-1-27	purple	41.68	0.0136	20.2832	5.1462	20.385	4.631	0.499	7.514	0.025	0	0	100.18
Bravo-1-28	purple	41.525	0.0417	20.6464	4.0651	20.596	4.635	0.4825	7.831	0.012	0.0316	0	99.866
Bravo-1-29	purple	41.789	0.0126	20.6688	4.4416	21.335	3.732	0.4137	7.267	0.029	0.0139	0	99.704
Bravo-1-30	purple	42.05	0.0052	21.1493	4.0293	21.958	3.194	0.3044	7.122	0	0.0156	0.004	99.832
Bravo-1-31	purple	41.873	0.0192	20.4201	4.8102	20.391	4.608	0.4892	7.655	0	0.0008	0.018	100.28
Bravo-1-32	purple	41.609	0.1818	20.431	3.9912	20.406	4.862	0.3882	8.264	0	0.0295	0	100.16
Bravo-1-33	purple	41.709	0.0804	22.4245	1.7149	20.159	4.348	0.441	8.755	0	0.028	0.011	99.671
Bravo-1-34	purple	41.59	0.0888	19.7606	5.3734	19.664	5.267	0.5226	7.918	0	0.0287	0	100.21
Bravo-1-35	purple	41.27	0.028	19.7322	5.4504	19.842	5.021	0.4454	7.79	0.032	0.0419	0	99.653
Bravo-1-36	dk purple	41.206	0.1105	18.4348	7.0157	19.468	5.791	0.4307	7.502	0	0.0305	0	99.989
Bravo-1-37	dk purple	40.758	0.0335	17.4056	8.0044	18.355	6.974	0.4244	7.718	0	0	0	99.672
Bravo-1-38	dk purple	40.946	0.1341	18.1293	7.1842	19.341	5.756	0.4933	7.929	0.022	0.0378	0	99.973
Bravo-1-39	dk purple	40.515	0.207	16.4123	9.1957	18.779	6.472	0.4743	7.474	0	0.0491	0	99.578
Bravo-1-40	dk purple	40.771	0.151	17.0499	8.6154	18.226	6.553	0.4451	7.79	0.013	0.0259	0	99.641
Bravo-1-41	dk purple	41.347	0.0884	19.7033	5.4196	19.767	5.056	0.5381	7.865	0.022	0.038	0.008	99.852
Bravo-1-42	dk purple	40.136	0.3871	16.3689	8.6647	17.94	6.556	0.4276	8.769	0	0.0397	0	99.289
Bravo-1-43	dk purple	40.551	0.2747	17.5647	7.4111	18.712	5.948	0.4214	8.634	0	0.0452	0.026	99.588
Bravo-1-44	dk purple	40.818	0.1326	17.4386	8.0573	18.527	6.427	0.5073	7.978	0.067	0.011	0	99.965
Bravo-1-45	dk purple	40.99	0.1529	18.2845	6.8818	19.176	5.603	0.3983	7.848	0	0.0357	0	99.37
Bravo-1-46	dk purple	41.153	0.151	19.1903	5.5985	20.259	4.994	0.4104	7.395	0	0.0178	0.013	99.181
Bravo-1-47	dk purple	40.98	0.1438	18.4143	6.7682	19.32	5.74	0.4633	7.692	0	0.0302	0	99.552
Bravo-1-48	dk purple	40.39	0	17.4446	7.9762	18.42	6.988	0.4665	7.584	0	0	0.047	99.316
Bravo-1-49	dk purple	41.403	0.4843	17.8834	4.5857	20.817	5.46	0.2529	8.552	0.025	0.0437	0	99.508
Bravo-1-50	purple	41.712	0	20.391	4.8737	20.992	3.916	0.3967	7.563	0.028	0.0064	0.018	99.897
Bravo-1-51	purple	41.604	0.0183	20.3269	4.8966	21.155	3.785	0.3757	7.736	0.016	0.0023	0	99.916
Bravo-1-52	purple	41.823	0	20.6128	4.6531	21.258	3.788	0.4136	7.541	0	0.0096	0.021	100.12
Bravo-1-53	purple	41.295	0.0103	20.233	4.9457	19.918	5.037	0.5479	8.014	0.022	0.0075	0	100.03
Bravo-1-54	purple	41.776	0.133	22.2589	1.833	20.185	4.172	0.4453	9.225	0.034	0.0371	0	100.1
Bravo-1-55	purple	41.338	0.0346	19.5176	5.4579	19.892	5.038	0.5043	7.935	0	0.0347	0	99.752
Bravo-1-56	purple	41.114	0.0825	18.388	7.0125	19.274	5.661	0.4558	7.66	0.065	0.0208	0.022	99.754
Bravo-1-57	purple	41.697	0.0829	20.1423	4.7376	19.986	4.782	0.5936	7.919	0.015	0.0445	0.001	100
Bravo-1-58	purple	41.154	0.0504	18.3527	7.0131	19.456	5.781	0.3845	7.555	0	0.0195	0	99.767
Bravo-1-59	purple	41.573	0.0598	19.8768	5.3251	19.773	5.215	0.531	8.221	0	0.0243	0	100.6
Bravo-1-60	purple	41.798	0	20.6847	4.6915	21.462	3.689	0.4105	7.552	0	0.0041	0	100.29
Bravo-1-61	purple	41.493	0.0248	20.2881	4.8201	20.461	4.484	0.4644	7.658	0	0.0014	0	99.696
Bravo-1-62	purple	41.648	0.0038	21.2996	3.4199	20.316	4.546	0.5493	7.997	0.018	0.0236	0	99.821
Bravo-1-63	purple	41.179	0.0253	20.0478	4.9688	19.664	5.11	0.5892	8.001	0.031	0.031	0	99.648

Bravo-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Bravo-1-64	purple	41.553	0.0042	20.4322	4.5041	21.407	3.759	0.4001	7.353	0.027	0.0115	0	99.45
Bravo-1-65	purple	40.786	0.1791	18.0394	7.2495	18.763	6.492	0.4207	8.067	0.01	0.0357	0.002	100.05
Bravo-1-66	purple	41.296	0.1712	19.9541	5.0687	19.807	5.117	0.5173	8.158	0.016	0.0466	0	100.15
Bravo-1-67	purple	41.342	0.0112	20.3224	4.5575	20.001	4.663	0.5954	7.931	0	0.0389	0.012	99.475
Bravo-1-68	purple	41.264	0.0066	20.681	4.3276	19.762	5.233	0.5377	8.135	0	0.0308	0.018	99.996
Bravo-1-69	purple	40.812	0.1092	18.3701	7.0001	19.603	5.753	0.4058	7.617	0.037	0.035	0	99.742
Bravo-1-70	purple	41.329	0.0047	20.534	4.4946	20.612	4.328	0.5211	7.599	0	0.0025	0	99.425
Bravo-1-71	purple	41.854	0.0155	20.9835	4.3586	21.531	3.541	0.4368	7.39	0.004	0.0086	0.024	100.15
Bravo-1-72	purple	41.441	0.0009	19.8659	5.3485	20.732	4.357	0.4475	7.495	0.001	0.0013	0.007	99.699
Bravo-1-73	purple	41.791	0	20.5772	4.5096	20.614	4.465	0.4745	7.645	0.009	0.0045	0	100.09
Bravo-1-74	purple	41.459	0.0117	20.5226	4.4851	19.417	5.397	0.5417	8.232	0.007	0.0243	0.004	100.1
Bravo-1-75	purple	41.427	0.0567	20.6799	4.1908	20.171	4.663	0.5603	8.017	0	0.0357	0.008	99.808
Bravo-1-76	purple	41.917	0	20.7047	4.5331	21.224	3.979	0.4424	7.497	0.007	0.0066	0.023	100.33
Bravo-1-77	purple	41.623	0.0154	20.7986	4.4264	21.651	2.84	0.4266	7.867	0.024	0.0176	0.014	99.703
Bravo-1-78	purple	41.186	0.021	19.6957	5.4988	19.729	4.996	0.544	8.075	0	0.0367	0	99.782
Bravo-1-79	purple	41.216	0.0019	20.9711	3.8034	19.681	5.062	0.4985	8.177	0	0.0141	0.007	99.432
Bravo-1-80	purple	41.513	0.2122	19.7434	4.9019	20.313	4.989	0.4603	7.937	0	0.0319	0	100.1
Bravo-1-81	purple	41.454	0.0141	20.763	4.0786	19.539	5.18	0.5109	8.442	0.019	0.0133	0	100.01
Bravo-1-82	purple	41.76	0.015	20.6154	4.9192	21.019	3.944	0.4098	7.542	0	0.0062	0	100.23
Bravo-1-83	purple	41.614	0.0028	20.2138	5.1041	20.957	4.09	0.4042	7.386	0.096	0.0101	0	99.877
Bravo-1-84	purple	41.743	0	20.4185	4.8665	21.415	3.571	0.3974	7.062	0.01	0.0164	0	99.499
Bravo-1-85	purple	40.827	0.1242	18.4591	7.1308	19.155	5.795	0.4467	7.536	0.032	0.0324	0	99.539
Bravo-1-86	purple	41.25	0.0749	19.7121	5.4782	19.799	5.036	0.4796	8.072	0.009	0.0289	0.008	99.948
Bravo-1-87	purple	41.702	0.0131	20.6428	4.2569	19.642	5.187	0.5425	8.288	0.01	0.0079	0	100.29
Bravo-1-88	purple	41.57	0.0056	19.954	5.35	20.702	4.272	0.4476	7.496	0.041	0.0128	0	99.852
Bravo-1-89	purple	41.532	0.0192	20.4918	4.8675	21.105	3.817	0.3788	7.488	0.012	0.0115	0.033	99.756
Bravo-1-90	purple	41.806	0.0968	22.3647	1.7633	20.147	4.228	0.4805	8.713	0	0.0429	0	99.642
Bravo-1-91	purple	41.609	0.0061	20.7709	4.1721	19.727	5.132	0.549	8.291	0	0.0188	0.023	100.3
Bravo-1-92	purple	41.983	0.1141	20.9101	3.943	20.559	4.767	0.4389	8.121	0	0.0265	0	100.86
Bravo-1-93	purple	41.979	0.0868	22.5481	1.6676	20.414	4.232	0.5049	9.224	0	0.0238	0.028	100.71
Bravo-1-94	purple	42.046	0.1511	20.4805	3.8224	20.796	5.079	0.3271	7.942	0	0.0101	0	100.65
Bravo-1-95	purple	41.636	0.0137	20.4087	4.8074	19.459	5.625	0.5215	8.217	0	0.0171	0.009	100.71
Bravo-1-96	purple	41.038	0.0489	19.3826	5.4158	20.256	4.955	0.4721	7.921	0	0.0332	0	99.523
Bravo-1-97	purple	41.493	0.0061	19.9115	5.3986	20.478	4.419	0.5146	7.7	0.006	0.01	0	99.937
Bravo-1-98	purple	41.426	0.1788	19.8811	5.3707	19.98	5.093	0.5401	7.981	0.003	0.0459	0.006	100.5
Bravo-1-99	purple	41.958	0.1055	22.4408	1.8738	20.34	4.348	0.4736	8.734	0	0.0366	0	100.31
Bravo-1-100	purple	41.265	0.0447	19.7856	5.5552	19.832	5.126	0.5795	7.93	0	0.0345	0	100.15
Bravo-1-101	purple	41.786	0.0245	20.5583	4.6222	20.882	4.15	0.4788	7.45	0	0.0041	0	99.956
Bravo-1-102	purple	41.696	0.0292	20.4266	4.4728	20.296	4.674	0.5239	7.928	0.031	0.0324	0	100.11
Bravo-1-103	purple	41.688	0.0354	20.8662	3.7593	20.349	4.525	0.4932	7.992	0	0.0232	0.046	99.778
Bravo-1-104	purple	41.866	0.1025	20.808	3.9963	20.489	4.68	0.4734	8.048	0.033	0.0226	0	100.52
Bravo-1-105	purple	42.065	0.0278	20.5863	4.9303	20.699	4.433	0.3953	7.556	0	0.0033	0.013	100.71
Bravo-1-106	purple	41.572	0.0325	19.7677	5.5129	19.733	5.059	0.4774	7.784	0.033	0.0362	0.002	100.01
Bravo-1-107	purple	41.696	0	20.5205	4.7601	20.804	4.305	0.4381	7.762	0.005	0.0039	0	100.29
Bravo-1-108	purple	41.557	0.0203	20.1199	5.2082	20.396	4.797	0.4235	7.686	0.007	0.006	0	100.22
Bravo-1-109	purple	41.727	0.0226	20.613	4.5644	20.174	4.847	0.5129	7.846	0.003	0.0042	0.028	100.34
Bravo-1-110	purple	40.69	0.1219	17.2393	8.3211	18.426	6.509	0.4813	7.984	0.003	0.0235	0	99.799
Bravo-1-111	purple	41.222	0.1457	18.4431	6.9381	19.464	5.598	0.4795	7.634	0	0.0312	0	99.955
Bravo-1-112	purple	41.29	0.1438	18.4896	6.8602	19.375	5.618	0.4241	7.997	0.033	0.0285	0.002	100.26
Bravo-1-113	purple	41.831	0.0024	21.4528	3.3446	20.765	4.611	0.5581	7.63	0	0.0428	0	100.24
Bravo-1-114	purple	42.082	0.0517	22.7432	1.757	20.573	4.275	0.3848	9.079	0	0.0464	0.027	101.02
Bravo-1-115	purple	42.033	0.0697	22.6744	1.6302	20.367	4.296	0.4405	8.87	0	0.0481	0.009	100.44
Bravo-1-116	red	41.421	0.1916	19.6474	5.3781	20.04	5.1	0.3702	7.814	0	0.0328	0	99.996
Bravo-1-117	red	41.313	0.218	19.9382	4.8842	20.37	4.981	0.4366	7.868	0.01	0.0425	0	100.06
Bravo-1-118	red	41.398	0.2597	19.7938	4.9225	20.314	4.997	0.3842	7.638	0	0.0456	0	99.752
Bravo-1-119	red	41.447	0.2162	19.7813	5.203	20.271	4.955	0.3971	8.013	0	0.0426	0	100.33
Bravo-1-120	red	41.563	0.1646	19.5891	4.9832	20.522	5.413	0.3565	7.484	0	0.0292	0	100.11
Bravo-1-121	red	41.24	0.2047	19.6097	5.1924	20.397	5.068	0.4152	7.973	0.024	0.047	0	100.17
Bravo-1-122	red	41.071	0.1382	18.202	6.7944	19.353	5.623	0.4963	8.005	0.027	0.0263	0.036	99.772
Bravo-1-123	red	41.465	0.2299	19.9251	4.9607	20.202	4.892	0.4043	7.969	0.019	0.0451	0.033	100.14
Bravo-1-124	red	41.122	0.1397	18.6128	6.7033	19.628	5.606	0.4981	7.764	0.001	0.0327	0	100.11
Bravo-1-125	red	41.263	0.1425	18.3504	6.8706	19.227	5.657	0.4824	7.815	0	0.0339	0	99.842
Bravo-1-126	red	40.551	0.2497	17.4071	7.818	18.539	6.032	0.4108	8.754	0	0.0352	0	99.798

Bravo-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Bravo-1-127	red	41.289	0.0727	22.0882	1.8024	18.05	7.105	0.4419	8.935	0	0.0252	0	99.81
Bravo-1-128	red	41.85	0.0716	22.6597	1.8185	20.134	4.201	0.4617	8.972	0	0.0427	0	100.21
Bravo-1-129	red	41.325	0.1951	20.3572	4.5154	19.255	5.065	0.5593	9.112	0.015	0.0454	0.038	100.48
Bravo-1-130	red	41.596	0.2385	20.3492	4.2268	20.445	4.933	0.4701	7.882	0	0.0428	0	100.18
Bravo-1-131	red	41.902	0.1924	20.8589	3.9469	20.526	4.729	0.454	7.992	0.025	0.035	0	100.66
Bravo-1-132	red	41.671	0.2221	19.9398	4.9361	20.256	5.005	0.3959	7.876	0.019	0.0444	0.021	100.39
Bravo-1-133	red	41.64	0.1797	20.3384	4.6273	20.287	4.835	0.4571	7.798	0	0.0464	0	100.21
Bravo-1-134	red	40.873	0.0976	19.045	5.8592	18.01	5.581	0.6397	9.533	0	0.0613	0	99.7
Bravo-1-135	red	41.538	0.043	20.601	4.5671	20.452	4.577	0.4982	7.965	0.003	0.0325	4E-04	100.28
Bravo-1-136	red	41.519	0.1707	20.3197	4.5349	20.474	4.734	0.4898	7.895	0	0.0464	0	100.18
Bravo-1-137	red	41.579	0	20.79	4.1728	19.44	5.32	0.5876	8.244	0	0.0198	0	100.15
Bravo-1-138	red	41.668	0.2154	19.757	5.2299	20.244	5.071	0.4285	7.861	0.028	0.0336	0	100.54
Bravo-1-139	red	41.576	0.2635	19.798	5.0426	20.174	5.086	0.4185	8.014	0	0.0284	0	100.4
Bravo-1-140	red	41.427	0.2244	20.7868	3.9643	20.648	4.728	0.3636	7.869	0	0.046	0	100.06
Bravo-1-141	red	41.854	0.5487	17.8913	4.7283	20.723	5.481	0.2496	8.705	0	0.0391	0.003	100.22
Bravo-1-142	red	41.786	0.2077	20.6786	3.9281	20.528	4.79	0.4432	7.979	0.007	0.0446	0.02	100.41
Bravo-1-143	red	41.166	0.1299	18.4236	6.845	19.475	5.636	0.4303	7.835	0	0.0304	0	99.971
Bravo-1-144	red	41.79	0.2126	20.6933	4.03	20.576	4.685	0.3893	7.837	0.006	0.0361	0	100.26
Bravo-1-145	red	41.504	0.0829	18.6789	6.8389	19.729	5.661	0.3685	7.425	0	0.0368	0	100.32
Bravo-1-146	red	41.511	0.5659	17.8001	4.7459	20.725	5.376	0.2381	8.679	0.052	0.0467	0	99.74
Bravo-1-147	red	40.518	0.4433	16.2712	8.8653	18.273	6.492	0.4709	8.79	0.078	0.0463	0	100.25
Bravo-1-148	red	41.921	0.2977	20.5817	3.5652	20.452	4.819	0.3696	7.888	0.022	0.0311	0.011	99.959
Bravo-1-149	red	41.824	0.204	20.7459	3.9509	20.343	4.793	0.4189	7.929	0.034	0.0529	0	100.29
Bravo-1-150	red	41.878	0.1764	21.284	3.3184	20.755	4.645	0.4308	7.878	0	0.0369	0	100.4
Bravo-1-151	red	41.581	0.147	19.956	4.8909	20.442	5.038	0.4911	7.584	0.034	0.0325	0	100.2
Bravo-1-152	red	41.222	0.1506	18.8221	6.8072	19.461	5.54	0.4758	7.956	0.045	0.0311	0	100.51
Bravo-1-153	red	41.399	0.1073	20.2431	4.8127	20.493	4.992	0.447	7.863	0	0.0314	0	100.39
Bravo-1-154	red	41.379	0.1072	19.8817	4.958	19.871	5.103	0.4822	7.954	0	0.0211	0.002	99.759
Bravo-1-155	red	41.686	0.2484	19.8455	5.0602	20.298	4.992	0.3632	8.015	0.027	0.0351	0	100.57
Bravo-1-156	red	41.567	0.2488	19.6964	5.1294	20.121	4.984	0.4241	8.09	0.028	0.0519	0	100.34
Bravo-1-157	red	42.094	0.1876	20.8427	3.9965	20.495	4.857	0.4065	7.909	0	0.0435	0	100.83
Bravo-1-158	red	41.47	0.2037	19.7147	5.1029	20.314	5.059	0.4416	7.758	0	0.0432	0	100.11
Bravo-1-159	red	41.754	0.0712	22.5145	1.6325	20.446	4.265	0.4323	8.909	0.024	0.0344	0	100.08
Bravo-1-160	red	42.009	0.0659	22.5338	1.8539	20.156	4.294	0.5031	9.17	0.064	0.0387	0.006	100.69
Bravo-1-161	red	41.789	0.2675	20.8002	3.8625	20.393	4.667	0.4277	8.093	0	0.0392	0	100.34
Bravo-1-162	red	41.624	0.1808	20.6191	4.0914	20.555	4.601	0.4489	7.911	0.007	0.0338	0	100.07
Bravo-1-163	red	41.097	0.2008	17.8195	7.4576	19.29	6.058	0.4372	7.636	0	0.0193	0.024	100.04
Bravo-1-166	orange	40.969	0.1269	23.0141	0.1473	16.371	4.126	0.4603	15.25	0.025	0.055	0	100.54
Bravo-1-167	orange	40.932	0.1251	23.0538	0.149	16.465	4.12	0.4281	15.08	0.01	0.0548	0	100.41
Bravo-1-168	orange	40.94	0.1532	23.0089	0.1645	16.283	4.151	0.4957	15.11	0.009	0.0567	0.015	100.39
Bravo-1-169	orange	41.251	0.5202	21.7032	0.061	17.181	4.589	0.5132	14.53	0	0.0439	0	100.39
Bravo-1-170	dk purple	41.173	0.1172	18.3134	7.0369	19.825	5.599	0.3906	7.151	0	0.0234	0.012	99.641
Bravo-1-171	dk purple	40.896	0.235	17.7851	7.3242	18.949	6.249	0.3971	7.87	0.031	0.0355	0.007	99.777
Bravo-1-173	dk purple	41.599	0.0516	20.5297	3.7563	20.293	4.485	0.4549	7.98	0	0.0375	0	99.187
Bravo-1-174	dk purple	41.221	0.1232	18.1214	7.1636	19.568	5.607	0.4942	7.213	0.023	0.0268	0	99.561
Bravo-1-175	dk purple	41.23	0.1996	17.7718	7.3179	18.982	6.246	0.4377	7.803	0.013	0.0329	0	100.03
Bravo-1-176	dk purple	41.108	0.1166	18.2085	7.3059	19.729	5.695	0.4592	7.158	0.041	0.035	0	99.856
Bravo-1-177	dk purple	40.782	0.1038	17.3653	8.2338	19.565	5.733	0.4081	7.185	0.04	0.0291	0	99.444
Bravo-1-178	dk purple	41.112	0.3254	17.8066	7.312	19.341	5.791	0.4111	7.81	0	0.0463	0.01	99.965
Bravo-1-179	dk purple	41.406	0.1848	19.1454	5.7718	20.099	5.267	0.3952	7.518	0.038	0.0459	7E-04	99.872
Bravo-1-180	dk purple	41.065	0.0414	17.0328	8.8164	19.105	6.286	0.4527	7.191	0.016	0.0309	0	100.04
Bravo-1-181	dk purple	41.55	0.1227	20.3437	4.6528	20.027	4.813	0.4839	7.944	0	0.0381	0	99.974
Bravo-1-182	dk purple	41.353	0.2153	17.651	7.3604	19.176	5.786	0.4657	7.918	0	0.0272	0.008	99.961
Bravo-1-183	dk purple	41.126	0.08	18.7443	6.436	20.063	5.43	0.412	7.123	0	0.0377	0.003	99.453
Bravo-1-184	dk purple	40.928	0.2549	17.6604	7.3658	18.648	6.213	0.4881	7.81	0	0.026	0	99.393
Bravo-1-185	dk purple	41.414	0.2355	20.2749	4.3453	20.11	5.198	0.4421	7.794	0	0.0263	0.003	99.843
Bravo-1-186	dk purple	40.576	0.2292	15.7413	10.3445	18.299	6.93	0.4827	7.22	0	0.0364	0.038	99.896
Bravo-1-187	dk purple	40.938	0.3216	17.6135	7.526	19.306	5.852	0.3873	7.542	0	0.0531	0.012	99.55
Bravo-1-188	dk purple	41.59	0.0539	20.7224	3.7922	19.981	4.598	0.5153	8.181	0	0.05	0.034	99.518
Bravo-1-189	dk purple	40.994	0.2189	17.3812	8.0347	19.353	5.863	0.3871	7.335	0	0.0348	0	99.601
Bravo-1-190	dk purple	41.582	0.1128	19.978	4.8214	20.07	4.798	0.4867	7.922	0	0.0454	0	99.815
Bravo-1-191	purple	41.672	0.0239	20.3924	4.6358	20.07	4.651	0.4558	8.066	0	0.029	0	99.996
Bravo-1-192	purple	41.442	0.1853	18.6631	6.2523	20.204	4.665	0.4524	7.74	0.003	0.0505	0	99.657

Bravo-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Bravo-1-193	purple	41.214	0.0678	19.1138	6.1471	19.827	5.357	0.4582	7.38	0	0.0314	0.019	99.615
Bravo-1-194	purple	41.478	0.0529	19.4123	5.6449	19.938	5.4	0.4627	7.542	0.001	0.0285	0	99.96
Bravo-1-195	purple	41.719	0.1199	19.935	5.1124	20.387	4.921	0.4305	7.533	0	0.0269	0	100.18
Bravo-1-196	purple	41.326	0.0681	18.346	7.2999	19.304	5.927	0.4886	7.415	0	0.0457	0	100.22
Bravo-1-197	purple	41.917	0.1296	19.9073	5.0954	19.888	4.877	0.5216	8.15	0	0.0419	0	100.53
Bravo-1-198	purple	41.868	0.4153	21.7092	1.7522	20.311	4.236	0.3511	9.037	0.018	0.0655	0	99.763
Bravo-1-199	purple	40.936	0.221	17.7075	7.1544	18.758	6.079	0.4519	7.79	0.012	0.0334	0	99.142
Bravo-1-200	purple	41.667	0.1602	18.8702	6.2261	20.335	4.672	0.4018	7.697	0	0.0697	0.051	100.15
Bravo-1-201	purple	40.963	0.0872	17.9701	7.4108	19.037	6.049	0.4506	7.262	0.006	0.0383	0.013	99.291
Bravo-1-202	purple	41.265	0.1845	18.606	6.1934	20.01	4.762	0.4694	7.588	0	0.0804	0	99.158
Bravo-1-203	purple	41.397	0.1269	20.1117	4.6525	19.931	4.843	0.4825	7.961	0	0.0406	0.013	99.558
Bravo-1-204	purple	40.408	0.1441	16.5741	8.9399	18.721	6.324	0.4021	7.566	0	0.0394	0	99.118
Bravo-1-205	purple	40.931	0.3106	17.5308	7.2011	18.74	6.064	0.4476	7.792	0.035	0.0423	0.011	99.105
Bravo-1-206	purple	41.406	0.0884	19.081	6.1844	19.752	5.507	0.4428	7.458	0	0.0288	0	99.949
Bravo-1-207	purple	41.56	0.0492	19.8632	5.1155	20.184	4.962	0.4532	7.527	0.029	0.036	0.008	99.788
Bravo-1-208	purple	41.295	0.1742	18.9694	6.1802	20.024	4.844	0.4482	7.717	0.05	0.0655	0.038	99.805
Bravo-1-209	purple	41.413	0.2663	19.4979	5.251	19.912	5.207	0.4317	7.876	0.012	0.0297	0	99.896
Bravo-1-210	purple	41.395	0.0947	18.1987	7.1451	19.42	5.776	0.4985	7.409	0.015	0.0325	0.041	100.03
Bravo-1-211	purple	41.05	0.0602	18.3006	7.2419	19.34	5.864	0.4858	7.34	1E-04	0.0269	0	99.709
Bravo-1-212	purple	41.625	0.1622	22.3004	1.4176	20.127	3.74	0.482	9.297	0.016	0.0399	0	99.208
Bravo-1-213	purple	41.012	0.147	16.8002	8.9702	18.786	6.317	0.4709	7.22	0.034	0.0291	0	99.786
Bravo-1-214	purple	41.312	0.0538	19.3288	5.7559	19.769	5.414	0.4458	7.523	0.034	0.0337	0.01	99.68
Bravo-1-215	purple	40.933	0.1313	17.3737	7.9338	19.265	5.964	0.5259	7.566	0.024	0.0461	0.004	99.766
Bravo-1-216	purple	41.81	0.2225	18.7763	6.3483	20.026	5.294	0.4047	7.488	0.041	0.0421	0.038	100.49
Bravo-1-217	purple	41.379	0.1993	18.7328	6.3107	20.204	4.65	0.4932	7.726	0	0.0649	0	99.761
Bravo-1-218	purple	41.47	0.1588	18.7551	6.2461	20.154	4.796	0.4032	7.645	0	0.0613	0	99.688
Bravo-1-219	purple	41.629	0.1939	19.1222	6.2317	20.539	4.662	0.4063	7.583	0.021	0.0544	0	100.44
Bravo-1-220	purple	41.524	0.1691	19.1101	6.1382	20.357	4.688	0.4666	7.673	0.013	0.0653	0.048	100.25
Bravo-1-221	purple	40.73	0.083	17.7841	7.1818	19.26	5.818	0.4787	7.372	0	0.0383	0.003	98.749
Bravo-1-222	purple	41.792	0.0197	20.349	4.5861	19.803	4.661	0.5729	7.682	0	0.0292	0	99.494
Bravo-1-223	purple	41.261	0.1854	18.967	6.3238	20.282	4.766	0.437	7.594	0	0.056	0	99.872
Bravo-1-224	purple	40.663	0.1567	16.7374	8.7649	18.851	6.233	0.4428	7.579	0	0.0281	0.012	99.467
Bravo-1-225	purple	41.371	0.1264	20.2323	4.7489	20.111	4.71	0.5542	8.072	0	0.0431	0.016	99.985
Bravo-1-226	purple	41.049	0.1322	17.0797	8.7117	19.25	6.29	0.3744	7.208	0	0.0323	0	100.13
Bravo-1-227	purple	41.32	0.1774	18.6668	6.3563	20.278	4.628	0.4679	7.692	0.034	0.0595	0.053	99.732
Bravo-1-228	purple	40.672	0.0784	17.6987	7.4082	18.849	6.084	0.4296	7.34	0	0.1371	0	98.696
Bravo-1-229	purple	41.387	0.1821	18.8183	6.304	20.333	4.755	0.4342	7.641	0.025	0.0811	0	99.96
Bravo-1-230	purple	41.218	0.1087	18.1104	7.4162	19.659	5.661	0.448	7.205	1E-04	0.0375	0	99.863
Bravo-1-231	purple	41.452	0.1128	20.0229	4.8354	19.896	4.792	0.4882	7.98	0	0.0432	0	99.622
Bravo-1-232	purple	41.288	0.2236	18.6482	6.3817	20.362	4.458	0.4174	7.486	0.054	0.0778	0.014	99.412
Bravo-1-233	purple	41.304	0.0673	18.7427	6.3688	19.729	5.562	0.4272	7.554	0.028	0.0384	0	99.822
Bravo-1-234	purple	41.518	0.1056	18.839	6.512	19.558	5.556	0.572	7.279	0	0.0196	0	99.959
Bravo-1-235	purple	41.73	0.1368	20.2313	4.6562	20.154	4.714	0.4884	7.876	0.028	0.047	0	100.06
Bravo-1-236	purple	41.154	0.1127	19.068	6.32	19.791	5.464	0.3937	7.24	0	0.0314	0	99.574
Bravo-1-237	purple	41.17	0.1854	18.7253	6.2472	20.069	4.836	0.4286	7.612	0.025	0.0518	0	99.35
Bravo-1-238	purple	41.748	0.03	19.881	5.3671	20.137	5.101	0.4572	7.394	0.071	0.0294	0	100.22
Bravo-1-239	purple	41.458	0.1252	19.2576	5.9688	19.757	5.168	0.451	7.996	0.028	0.0332	0	100.24
Bravo-1-240	purple	41.005	0.2115	18.7877	6.3123	20.257	4.706	0.3892	7.758	0.016	0.0852	0.043	99.571
Bravo-1-241	purple	41.611	0.1603	18.9741	6.3018	20.002	4.944	0.4553	7.432	0.047	0.0489	0.004	99.98

Bravo-1 Chromite

Sample	SiO_2	TiO_2	Nb_2O_5	Ta_2O_5	Al_2O_3	Cr_2O_3	V_2O_5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe_2O_3	FeO	Total
Bravo-1-1	0.0288	0.668	0	0	9.6337	55.5781	0.2339	11.076	0.034	0.389	21.408	0.147	0.082	99.279	5.054121	16.86	99.785
Bravo-1-2	0.0208	1.282	0.0345	0	9.5649	57.7107	0.2021	10.656	0.031	0.1835	19.556	0.082	0.228	99.552	1.522121	18.19	99.705
Bravo-1-3	0.0007	0.355	0	0.0087	9.4043	57.4299	0.4341	10.708	0.044	0.2597	20.861	0.106	0.016	99.628	3.523117	17.69	99.98
Bravo-1-4	0.0204	0.105	0	0	11.1003	58.0363	0.4001	11.261	0.052	0.3785	18.358	0.079	0.133	99.923	1.829711	16.71	100.11
Bravo-1-5	0.0369	0.432	0	0	10.8201	60.1189	0.2906	11.978	0.044	0.2263	17.305	0.093	0.106	101.45	1.044286	16.37	101.55
Bravo-1-6	0.0468	0.211	0	0	10.2174	58.1873	0.2912	11.318	0.04	0.3135	18.559	0.012	0.146	99.342	2.39896	16.4	99.582
Bravo-1-7	0.027	1.353	0	0	9.0841	57.8459	0.4235	10.834	0.03	0.1829	19.229	0.129	0.08	99.218	1.14241	18.2	99.332
Bravo-1-8	0.0313	2.881	0.0327	0	3.1343	52.6026	0.5809	9.2529	0.03	0.5967	29.497	0.21	0.121	98.97	9.589031	20.87	99.931
Bravo-1-9	0.0551	0.47	0.014	0.0495	6.976	58.0599	0.3666	10.8	0.039	0.06	22.749	0.132	0.019	99.789	5.791756	17.54	100.37
Bravo-1-10	0.0131	0.273	0.0128	0.0087	9.875	60.3777	0.2909	11.526	0.018	0.3373	16.934	0.063	0.162	99.891	0.877559	16.14	99.979
Bravo-1-12	0.0457	1.595	0	0	7.9296	54.0681	0.2782	10.379	0.046	0.5222	24.473	0.197	0.019	99.551	6.571395	18.56	100.21
Bravo-1-14	0.0371	0.086	0.0179	0	10.5495	57.5776	0.246	11.176	0.028	0.3761	19.153	0.096	0.157	99.499	3.044466	16.41	99.804
Bravo-1-15	0.0338	1.714	0	0.0208	8.0661	53.6438	0.3595	10.978	0.03	0.2373	23.844	0.147	0.106	99.179	6.445719	18.04	99.825
Bravo-1-16	0	0.079	0.0125	0.0145	3.6339	63.4801	0.0317	8.4086	0.073	0.4957	22.905	0.014	0.252	99.399	4.360701	18.98	99.836
Bravo-1-17	0.0369	0.082	0.0243	0	9.7776	56.9904	0.2056	10.884	0.008	0.375	20.385	0.091	0.045	98.905	4.165119	16.64	99.322
Bravo-1-18	0.0158	0.79	0.014	0	6.746	53.8366	0.3708	9.055	0.002	0.4251	27.669	0.135	0.161	99.22	8.741823	19.8	100.1
Bravo-1-19	0.0312	0.155	0	0	11.1613	55.8547	0.2465	10.329	0.046	0.138	20.828	0.049	0.12	98.959	3.174799	17.97	99.277
Bravo-1-20	0.0222	2.68	0	0.0661	2.2734	53.6134	0.5489	9.029	0.083	0.3746	29.597	0.189	0.092	98.567	9.6517	20.91	99.534
Bravo-1-21	0.0439	1.629	0.0163	0.0409	1.8955	60.5997	0.2699	9.4826	0.064	0.3077	24.813	0.118	0.118	99.398	6.287986	19.16	100.03
Bravo-1-22	0.0192	0.483	0	0.0148	9.1376	55.6053	0.1341	10.852	0.032	0.1565	22.875	0.078	0.133	99.521	6.357598	17.15	100.16
Bravo-1-23	0.0573	2.248	0.0138	0	2.7146	55.1333	0.5546	8.978	0.023	0.5096	28.281	0.099	0.118	98.729	8.381851	20.74	99.569
Bravo-1-24	0.0275	0.099	0	0	9.2015	56.9338	0.3751	10.571	0.067	0.3766	21.74	0.087	0.111	99.589	4.854311	17.37	100.08
Bravo-1-25	0.0411	1.731	0.0242	0	6.5995	55.947	0.3422	11.393	0.049	0.3797	22.208	0.21	0.119	99.044	5.902915	16.9	99.636
Bravo-1-26	0.0234	3.166	0	0	3.8184	52.648	0.3349	8.9021	0	0.4493	28.763	0.202	0.063	98.369	8.209459	21.38	99.192
Bravo-1-27	0.0266	0.33	0	0	7.7608	56.0788	0.1483	9.0484	0.002	0.2624	25.244	0.094	0.103	99.099	6.50134	19.39	99.75
Bravo-1-28	0.0048	1.621	0.0291	0	5.8588	58.3945	0.295	11.177	0.028	0.1108	21.609	0.125	0.066	99.319	4.68719	17.39	99.789
Bravo-1-29	0.0173	0.358	0.0077	0.0034	9.7373	56.3532	0.1871	10.921	0.021	0.3774	21.113	0.031	0.08	99.207	4.716046	16.87	99.679
Bravo-1-30	0.0553	1.133	0.0293	0.0262	8.8666	56.23	0.2836	11.053	0.064	0.269	21.524	0.162	0.178	99.873	4.461805	17.51	100.32
Bravo-1-31	0	1.081	0.0203	0	6.7454	57.1466	0.3254	10.79	0.034	0.3915	22.939	0.096	0.095	99.664	6.028794	17.51	100.27
Bravo-1-32	0.028	0	0.0321	0.0129	12.0251	58.1589	0.495	11.592	0.044	0.3244	16.96	0.077	0.162	99.912	0.551656	16.46	99.967
Bravo-1-33	0.0343	1.495	0.0278	0	5.0956	54.8802	0.2125	8.7855	0.028	0.6428	27.205	0.11	0.066	98.582	7.979428	20.02	99.382
Bravo-1-34	0.0353	2.967	0.0189	0	2.516	50.5424	0.4903	8.3698	0.026	0.4995	32.587	0.211	0.011	98.275	11.69177	22.07	99.446
Bravo-1-35	0.0875	0.32	0.0446	0	8.4496	55.4451	0.2528	10.251	0.045	0.3099	23.44	0.106	0.183	98.935	6.383276	17.7	99.575
Bravo-1-36	0.0102	0.035	0	0.0223	10.3883	58.0422	0.2348	11.05	0.047	0.2617	19.305	0.072	0.186	99.654	2.992559	16.61	99.954
Bravo-1-37	0.0195	1.676	0.0063	0.0313	4.9989	54.7907	0.2586	9.8797	0.045	0.4291	26.156	0.097	0.066	98.454	8.270716	18.71	99.283
Bravo-1-39	0.0139	0.966	0.0293	0	8.5475	55.2125	0.2793	10.792	0.037	0.2733	23.12	0.082	0.08	99.431	6.004586	17.72	100.03
Bravo-1-40	0.0411	0.173	0	0.0257	11.691	58.4018	0.3156	11.665	0.065	0.1665	16.991	0.047	0.176	99.759	0.797221	16.27	99.839
Bravo-1-41	0.0021	0.032	0	0.0116	15.3675	53.4402	0.3271	11.444	0	0.0642	18.943	0.123	0.235	99.99	1.968638	17.17	100.19
Bravo-1-42	0.0513	0.473	0.0303	0.0159	3.8706	59.8852	0.422	10.031	0.032	0.1426	23.922	0.135	0.121	99.132	6.646725	17.94	99.798
Bravo-1-43	0.0086	0.082	0.0525	0.0054	10.3311	56.5324	0.2746	11.214	0.114	0.2719	20.31	0.023	0.138	99.357	4.314742	16.43	99.789
Bravo-1-44	0.0595	3.286	0.024	0.0533	4.4888	53.2433	0.3922	10.337	0.035	0.3093	25.734	0.219	0.127	98.308	6.864961	19.56	98.996
Bravo-1-45	0.054	0.724	0.0064	0.0047	8.1513	55.7293	0.2054	10.288	0.052	0.3731	23.392	0.143	0.185	99.308	6.199668	17.81	99.929
Bravo-1-46	0.0153	0	0	0	12.0965	54.5315	0.2651	11.575	0.046	0.4962	20.444	0.053	0.17	99.693	5.011796	15.93	100.2
Bravo-1-48	0.0388	0.881	0.0341	0.0259	4.247	60.9939	0.3079	10.336	0.089	0.2465	22.74	0.113	0.024	100.08	5.339719	17.94	100.61
Bravo-1-50	0.0328	1.708	0	0.024	4.7621	58.7846	0.3293	11.158	0.037	0.3777	21.916	0.139	0.108	99.377	5.357768	17.09	99.913
Bravo-1-51	0.0604	1.153	0.028	0.0134	8.0295	52.9086	0.285	9.2078	0.079	0.332	26.564	0.083	0.198	98.942	7.352939	19.95	99.679
Bravo-1-52	0	1.326	0.048	0.0213	4.8952	55.4592	0.2626	9.033	0	0.4467	27.092	0.144	0.09	98.818	8.128023	19.78	99.632
Bravo-1-53	0.0035	0.191	0	0	9.9511	58.3628	0.3355	10.839	0	0.1295	19.86	0.098	0.135	99.906	2.699212	17.43	100.18
Bravo-1-54	0.0476	1.729	0.0268	0.0383	8.1037	53.543	0.3704	10.262	0.007	0.5105	24.777	0.147	0.148	99.71	6.29893	19.11	100.34
Bravo-1-55	0.0126	1.484	0	0	4.3611	53.4445	0.2815	8.745	0.01	0.5228	29.998	0.186	0.105	99.15	10.80498	20.28	100.23
Bravo-1-56	0.0197	1.328	0.0178	0.0147	6.2329	51.6663	0.4006	8.6505	0.075	0.4681	30.323	0.124	0	99.32	10.38761	20.98	100.36
Bravo-1-57	0.0329	0.63	0.0311	0.0124	15.402	48.725	0.2429	11.295	0.055	0.3988	22.489	0.097	0.067	99.478	5.48333	17.55	100.03
Bravo-1-58	0.023	0.079	0	0.0209	9.4949	57.2038	0.3097	10.752	0.082	0.184	21.093	0.103	0.247	99.591	4.486363	17.06	100.04
Bravo-1-59	0.0165	0.074	0	0.0249	9.0079	59.7447	0.3565	10.84	0.056	0.4282	19.087	0.038	0.149	99.822	2.44783	16.88	100.07
Bravo-1-60	0.0361	0.174	0.0524	0	9.5499	56.7657	0.2863	10.711	0.056	0.261	21.46	0.054	0.082	99.489	4.561784	17.36	99.946
Bravo-1-61	0.039	0.449	0	0	6.3752	60.1787	0.3007	11.007	0.035	0.2936	20.82	0.1	0.222	99.819	4.741321	16.55	100.29
Bravo-1-63	0.0532	2.917	0	0	2.4768	51.4935	0.7311	8.5584	0.03	0.4247	32.161	0.225	0.239	99.309	10.9869	22.27	100.41
Bravo-1-64	0.0276	0.73	0	0	8.4818	55.2085	0.1715	10.094	0.074	0.2948	23.58	0.152	0.106	98.92	6.130667	18.06	99.535
Bravo-1-65	0.0401	0.333	0	0	8.2343	58.1087	0.2739	10.458	0.027	0.3134	22.074	0.139	0.198	100.2	4.929072	17.64	100.69
Bravo-1-66	0.0168	1.368	0	0	8.4442	58.2518	0.2508	10.807	0.062	0.3545	19.723	0.143	0.202	99.622	2.265746	17.68	99.849
Bravo-1-67	0.0162	0.148	0.0294	0	8.8464	57.8138	0.3033	11.346	0.077	0.2575	20.479	0.131	0.117	99.564	4.835605	16.13	100.05
Bravo-1-68	0.0447	0.876	0	0.0216	9.9091	53.8795	0.3271	11.2	0.04	0.4187	22.096	0.112	0.106	99.031	5.682075	16.98	99.6
Bravo-1-69	0.0177	0.918	0.023	0.0188	8.2623	56.9843	0.297	10.931	0.052	0.2025	21.238	0.117	0.154	99.216	4.372823	17.3	99.654
Bravo-1-70	0.1026	1.516	0.0304	0	4.6548	56.0605	0.1737	9.8304	0.032	0.5012	25.633	0.118	0.172	98.825	7.912156	18.51	99.617
Bravo-1-71	0.0448	0.326	0	0	8.2397	57.7011	0.2377	10.641	0.089	0.4013	21.846	0.139	0.077	99.742	5.26093	17.11	100.27
Bravo-1-72	0.0418	0.416	0	0	9.3065	56.8931	0.347	10.541	0.066	0.194	21.42	0.098	0.08	99.403	3.994865	17.83	99.803
Bravo-1-73	0.054	0.41	0	0	9.8385	55.8152	0.3638	10.802	0	0.2383	22.089	0.024	0.082	99.718	4.806981	17.76	100.2
Bravo-1-74	0.0109	0.669	0.014	0	8.5011	57.9958	0.2392	11.192	0	0.4661	20.344	0.133	0.228	99.793	4.275351	16.5	100.22
Bravo-1-76	0.0503	3.875	0.0215	0	3.3735	50.4698	0.5159	9.2246	0.002	0.4533	30.92	0.139	0.124	99.168	9.833586	22.07	100.15
Bravo-1-77	0	2.819	0	0	2.1642	53.1161	0.7168	9.0052	0.03	0.5816	30.588	0.194	0.055	99.27	10.23683	21.38	100.3
Bravo-1-78	0.0349	0.358	0	0	9.4922	59.4485	0.1852	11.03	0.019	0.2392	19.257	0.177	0.127	100.37	2.544748	16.97	100.62

Bravo-1 Chromite

Sample	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Bravo-1-79	0.0481	0.119	0.0243	0	9.9617	55.2154	0.2445	11.015	0.03	0.5442	21.549	0.037	0.221	99.008	5.799732	16.33	99.589
Bravo-1-80	0	0.013	0.0349	0	13.9081	54.1904	0.2164	11.305	0.042	0.2299	19.539	0.112	0.163	99.755	3.052523	16.79	100.06
Bravo-1-81	0.0125	0.352	0.0192	0	9.2708	56.9084	0.2696	10.885	0	0.214	21.155	0.112	0.167	99.367	4.555283	17.06	99.823
Bravo-1-82	0.0298	0	0.023	0.0209	10.5426	59.0087	0.3077	10.975	0.015	0.4696	18.225	0.089	0.117	99.824	1.598313	16.79	99.984
Bravo-1-83	0.0108	1.575	0.0402	0.0225	1.8754	50.2641	0.7691	6.9057	0.05	0.5975	35.752	0.232	0.071	98.165	13.96407	23.19	99.564
Bravo-1-84	0.0194	2.918	0.0126	0.0033	2.2059	52.0266	0.7168	8.619	0.033	0.5919	31.099	0.212	0.144	98.601	10.36033	21.78	99.639
Bravo-1-85	0.0322	0.085	0	0	13.7423	54.6967	0.2433	11.781	0.056	0.485	18.586	0.023	0.182	99.911	2.878804	16	100.2
Bravo-1-86	0.0337	0.212	0.0141	0	9.6543	58.0645	0.1992	11.052	0.008	0.2261	19.9	0.07	0.112	99.545	3.49109	16.76	99.895
Bravo-1-88	0.0213	0.087	0.0063	0.0482	6.3189	57.3466	0.3395	10.043	0.036	0.4728	24.337	0.077	0.079	99.211	7.505513	17.58	99.963
Bravo-1-89	0.0398	0.291	0.0304	0.0074	5.8071	56.8193	0.3396	9.4122	0.076	0.316	25.595	0.094	0.156	98.984	7.735832	18.63	99.759
Bravo-1-90	0.0004	0.231	0.0115	0.0216	8.9148	57.3949	0.3212	11.242	0	0.4565	21.018	0.135	0.226	99.971	5.245445	16.3	100.5
Bravo-1-91	0	0.073	0.0371	0	9.7261	57.1181	0.3811	10.8	0.028	0.4279	20.773	0.049	0.12	99.532	4.099278	17.08	99.943
Bravo-1-92	0.0337	1.028	0.0013	0.0611	8.4218	57.5416	0.4782	10.409	0.006	0.3893	20.76	0.089	0.133	99.352	2.561816	18.46	99.609
Bravo-1-3*	0.0274	3.417	0	0.0232	1.8735	46.2649	0.7176	7.5411	0.022	0.2481	37.801	0.168	0.055	98.158	15.0553	24.25	99.666
Bravo-1-4*	0	0.624	0.019	0.0274	6.3471	60.3229	0.1089	10.673	0.053	0.3349	21.017	0.084	0.085	99.695	4.537241	16.93	100.15
Bravo-1-7*	0.0151	0.689	0.0128	0.0047	9.024	55.2179	0.1708	10.546	0.023	0.2034	23.031	0.162	0.167	99.266	6.019936	17.61	99.869
Bravo-1-13*	0.0046	0.635	0.0115	0.004	9.0234	54.9492	0.3505	10.801	0.013	0.3777	22.669	0.138	0.146	99.122	5.998691	17.27	99.723
Bravo-1-15*	0.0263	0.12	0.0359	0.0386	11.0245	56.043	0.0387	11.146	0.019	0.2279	20.303	0.11	0.152	99.286	4.375227	16.37	99.724
Bravo-1-21*	0.4239	0.213	0	0.0114	9.0043	55.673	0.2049	10.771	0.037	0.3525	21.988	0.079	0.066	98.824	5.250025	17.26	99.35
Bravo-1-22*	0.0267	0.193	0	0	9.308	56.731	0.0754	10.736	0.093	0.3393	21.516	0.046	0.186	99.249	5.426891	16.63	99.792
Bravo-1-23*	0.0386	1.697	0.0038	0	5.7637	55.0304	0.1693	9.6232	0.017	0.2	25.961	0.19	0.171	98.865	7.391044	19.31	99.606
Bravo-1-32*	0.0128	0.852	0.019	0.0194	7.596	56.7766	0.2636	9.8554	0.032	0.1238	23.526	0.125	0.079	99.28	5.116956	18.92	99.793
Bravo-1-33*	0.007	1.055	0.0344	0.0296	8.7535	55.1856	0.2685	10.738	0.028	0.2096	22.496	0.201	0.13	99.135	5.319126	17.71	99.668
Bravo-1-38*	0.0147	3.048	0	0.0351	2.2008	50.4169	0.5278	8.447	0.036	0.4606	33.5	0.256	0.076	99.02	12.58185	22.18	100.28
Bravo-1-43*	0.0359	0.912	0.0292	0.0241	7.3295	57.8245	0.0736	10.486	0	0.1608	21.809	0.152	0.206	99.043	4.798191	17.49	99.523
Bravo-1-44*	0.0008	0.318	0.0293	0	8.3159	58.2761	0.2385	10.939	0.051	0.1082	20.644	0.071	0.164	99.157	4.321755	16.76	99.59
Bravo-1-45*	0.0247	0.935	0	0.0382	7.5119	58.1676	0.2601	10.618	0.048	0.2241	22.059	0.167	0.14	100.19	4.640019	17.88	100.66
Bravo-1-55*	0.0239	0.479	0	0.0343	9.1006	57.1018	0.2697	10.752	0.102	0.1225	21.333	0.101	0.204	99.623	4.384739	17.39	100.06
Bravo-1-56*	0.0274	3.258	0	0	4.6517	53.9509	0.3031	9.7264	0.041	0.3883	27.236	0.184	0.058	99.825	7.187726	20.77	100.54
Bravo-1-59*	0.0249	2.471	0	0.0046	2.8868	55.4141	0.7219	9.6269	0.045	0.2328	27.221	0.22	0	98.87	7.520846	20.45	99.623
Bravo-1-72*	0.0428	0.945	0	0.0114	7.4726	57.6172	0.157	10.389	0.073	0.116	22.164	0.129	0.154	99.27	4.742524	17.9	99.745
Bravo-1-75*	0.0513	0.521	0	0.0081	10.4865	55.5933	0.2013	11.184	0.035	0.1965	20.904	0.115	0.186	99.482	4.490381	16.86	99.932
Bravo-1-78*	0.0283	0.87	0	0.0436	8.5714	59.0216	0.3206	11.141	0.046	0.3149	19.097	0.098	0.13	99.682	2.245297	17.08	99.907
Bravo-1-80*	0.0452	2.345	0.0202	0.004	3.6909	58.5273	0.4028	10.964	0.02	0.4185	22.939	0.129	0.069	99.574	5.457227	18.03	100.12
Bravo-1-83*	0.0133	0.145	0.0128	0.0485	9.3649	57.9115	0.2742	10.852	0.037	0.1067	21.043	0.148	0.217	100.17	4.273445	17.2	100.6
Bravo-1-86*	0.0228	0.697	0.0153	0.0229	8.9803	55.517	0.31	10.75	0.018	0.2046	23.098	0.098	0.13	99.864	5.856251	17.83	100.45
Bravo-1-87*	0.0302	0.16	0	0.0189	9.7415	56.9745	0.2882	10.992	0.032	0.3257	20.631	0.094	0.204	99.493	4.363437	16.7	99.93
Bravo-1-89*	0.0277	3.518	0.0176	0.0497	1.92	46.9386	0.648	7.6174	0.031	0.4356	37.584	0.217	0.173	99.177	14.95568	24.13	100.68
Bravo-1-90*	0.0273	3.06	0.0113	0.0192	1.3863	45.755	0.8572	7.067	0.052	0.3378	40.02	0.192	0.063	98.848	16.802	24.9	100.53

*These chromite grains were mixed in with the Bravo-1 ilmenite analyses

Bravo-1 Ilmenite

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	eikelite	hematite	Total
Bravo-1-1	core	0.0117	52.958	0.0843	0.0626	0.1237	2.3001	0.0957	11.327	0.022	0.3857	31.822	0.131	0	99.323	5.147784	27.19	99.838	54.658	40.638	4.704	100
Bravo-1-2	core	0.0241	53.248	0.041	0.0006	0.319	2.8504	0.1402	12.835	0	0.2386	29.562	0.155	0.043	99.457	5.206296	24.88	99.978	49.662	45.661	4.676	100
Bravo-1-5	core	0.0184	51.756	0.1476	0.0174	0.0226	5.5192	0.0308	12.624	0	0.4288	28.144	0.267	0	98.975	5.052723	23.6	99.481	48.771	46.516	4.712	100
Bravo-1-6	core	0.0125	53.897	0.0915	0	0.0967	2.4297	0	11.177	0.006	0.3206	31.767	0.1	0	99.898	3.925951	28.23	100.29	56.561	39.901	3.538	100
Bravo-1-8	core	0.004	48.688	0.1773	0.0078	0.1585	4.4466	0.4291	10.796	0.038	0.4158	33.565	0.162	0	98.888	9.742701	24.8	99.864	51.208	39.734	9.058	100
Bravo-1-9	core	0.0578	53.326	0.0733	0.0317	0.2904	2.7488	0	12.836	0	0.2206	29.562	0.157	0.016	99.319	5.225329	24.86	99.842	49.605	45.679	4.715	100
Bravo-1-10	core	0.0137	49.158	0.1538	0.0284	0.179	4.3306	0.2248	10.941	0.026	0.3328	33.594	0.167	0	99.151	9.847963	24.73	100.14	50.799	40.075	9.126	100
Bravo-1-11	core	0.0121	53.517	0.0694	0	0.2293	2.5967	0	12.251	0.015	0.2169	30.668	0.139	0.048	99.761	5.222429	25.97	100.28	51.782	43.533	4.685	100
Bravo-1-12	core	0.0213	52.321	0.0335	0.0246	0.38	4.0678	0.1306	12.672	0.011	0.2602	29.183	0.187	0.053	99.344	5.482212	24.25	99.893	49.167	45.813	5.020	100
Bravo-1-14	core	0.0196	53.316	0.1204	0.0174	0.2663	2.3243	0.0963	12.519	0.023	0.3639	30.025	0.206	0.003	99.299	5.189502	25.35	99.819	50.695	44.624	4.682	100
Bravo-1-16	core	0.0243	53.244	0.0832	0	0.3024	2.9181	0	12.681	0.027	0.2453	29.524	0.121	0	99.171	5.027568	25	99.674	50.141	45.323	4.536	100
Bravo-1-17	core	0.0067	52.139	0.1835	0.0265	0.0363	3.632	0.0541	12.207	0.018	0.2893	30.197	0.178	0	98.968	5.826445	24.95	99.551	50.563	44.105	5.332	100
Bravo-1-18	core	0.0033	49.947	0.22	0	0.0041	2.1429	0.1482	8.7973	0	0.4304	37.527	0.061	0.029	99.31	9.261472	29.19	100.24	59.534	31.969	8.497	100
Bravo-1-19	core	0	53.41	0.1189	0	0.0795	2.2495	0.0104	12.101	0	0.3199	30.853	0.143	0	99.285	5.228436	26.15	99.808	52.230	43.071	4.699	100
Bravo-1-20	core	0	52.784	0.0768	0.0225	0.0838	2.5047	0.0051	11.364	0.008	0.3078	31.399	0.08	0	98.636	4.976092	26.92	99.134	54.462	40.991	4.546	100
Bravo-1-24	core	0.027	53.517	0.0732	0	0.2969	2.7592	0.2537	12.422	0.032	0.2611	29.837	0.077	0.04	99.595	4.166524	26.09	100.01	52.073	44.185	3.742	100
Bravo-1-25	core	0	52.863	0.0795	0.0013	0.2639	2.7191	0.1377	12.498	0.016	0.1892	29.609	0.166	0.008	98.551	4.910639	25.19	99.043	50.714	44.838	4.449	100
Bravo-1-26	core	0.0048	52.681	0.1078	0.0168	0.0319	2.4491	0	11.337	0	0.3663	31.526	0.08	0	98.6	5.189307	26.86	99.12	54.357	40.905	4.738	100
Bravo-1-27	core	0	49.416	0.1723	0.0613	0.1727	4.3714	0.6287	10.615	0.038	0.3149	33.348	0.082	0	99.22	7.839743	26.29	100.01	53.890	38.829	7.281	100
Bravo-1-28	core	0.0109	48.938	0.2283	0.0853	0.1915	4.2041	0.4505	10.932	0.005	0.364	33.373	0.096	0.061	98.94	9.268637	25.03	99.868	51.335	40.037	8.627	100
Bravo-1-29	core	0.0088	52.393	0.1697	0.0419	0.0634	3.432	0.0028	11.312	5E-04	0.3117	31.721	0.167	0.032	99.656	5.605546	26.68	100.22	54.009	40.853	5.139	100
Bravo-1-31	core	0.0192	52.826	0.0534	0	0.2808	2.6526	0.0399	12.46	0	0.3898	29.972	0.147	0.013	98.853	5.639941	24.9	99.418	50.157	44.731	5.112	100
Bravo-1-34	core	0.0124	52.394	0.1387	0.0303	0.0234	2.3859	0.0598	11.11	0.024	0.3612	31.901	0.094	0	98.534	5.32499	27.11	99.067	54.955	40.165	4.880	100
Bravo-1-35	core	0.011	51.143	0.1711	0.0535	0.0144	4.9391	0	11.91	0.033	0.3651	29.822	0.201	0.019	98.682	6.04967	24.38	99.288	50.395	43.935	5.670	100
Bravo-1-36	core	0.0114	52.913	0.0819	0.0446	0.3226	3.557	0.1723	12.461	0.011	0.2363	29.368	0.196	0.072	99.447	4.54872	25.28	99.903	50.990	44.847	4.163	100
Bravo-1-37	core	0.0156	53.122	0.0807	0.0323	0.2647	2.8072	0.1281	12.396	0.008	0.2746	30.137	0.152	0.069	99.487	5.136493	25.51	100	51.085	44.264	4.652	100
Bravo-1-39	core	0.0367	54.473	0.1386	0.0219	0	2.4283	0	11.415	0.067	0.2801	31.661	0.103	0.061	100.69	3.702856	28.33	101.06	56.259	40.417	3.324	100
Bravo-1-40	core	0.003	52.759	0.0979	0	0.0932	2.5431	0.1307	11.506	0	0.4126	31.647	0.08	0.122	99.394	5.548463	26.65	99.95	53.680	41.292	5.027	100
Bravo-1-41	core	0.0294	52.604	0.072	0	0.3665	3.7159	0.0183	12.64	0	0.2244	29.334	0.272	0.058	99.335	5.503834	24.38	99.886	49.374	45.612	5.014	100
Bravo-1-42	core	0.0227	52.45	0.0955	0.0136	0.2547	2.5271	0.1667	11.964	0.012	0.3339	30.928	0.077	0	98.845	5.675125	25.82	99.413	51.948	42.905	5.147	100
Bravo-1-47	core	0.0058	53.569	0.0869	0.0233	0.3191	2.1954	0	12.464	0	0.2694	30.404	0.166	0.021	99.523	5.309499	25.63	100.05	51.001	44.228	4.772	100
Bravo-1-48	core	0.0226	51.771	0.2078	0.049	0	2.8601	0	10.185	0.055	0.3267	34.022	0.13	0.137	99.766	6.646386	28.04	100.43	56.971	36.914	6.114	100
Bravo-1-49	core	0.0033	52.545	0.2207	0.0768	0.0587	3.4667	0.0839	12.171	0	0.3226	30.021	0.166	0	99.135	5.023726	25.5	99.639	51.494	43.882	4.624	100
Bravo-1-50	core	0.0055	52.89	0.0819	0.0258	0.0705	2.4838	0.3036	11.587	0.056	0.2313	31.359	0.127	0	99.221	4.758562	27.08	99.698	54.275	41.414	4.311	100
Bravo-1-51	core	0.0108	52.903	0.1276	0.0258	0.0527	2.4055	0	11.17	0	0.3433	31.413	0.103	0.058	98.613	4.528703	27.34	99.067	55.449	40.399	4.152	100
Bravo-1-52	core	0.0123	53.754	0.0918	0.0065	0.0888	2.5533	0	12.488	0.021	0.2855	30.299	0.155	0.045	99.801	5.114616	25.7	100.31	51.130	44.287	4.583	100
Bravo-1-53	core	0	51.671	0.207	0.0071	0.0506	3.8479	0.2659	11.599	0	0.4248	30.972	0.216	0.101	99.362	5.839634	25.72	99.947	52.464	42.171	5.365	100
Bravo-1-54	core	0.0047	49.976	0.2114	0.0329	0	2.4684	0.0268	8.9935	0.03	0.4453	36.816	0	0	99.005	8.994081	28.72	99.906	58.833	32.851	8.316	100
Bravo-1-57	core	0.017	52.458	0.072	0.0013	0.3534	3.4845	0.2728	12.425	0.024	0.3178	29.426	0.253	0.003	99.108	4.960837	24.96	99.605	50.595	44.880	4.525	100
Bravo-1-60	core	0.0279	48.868	0.2741	0.0187	0.0684	4.3666	0.2949	10.691	0.03	0.2802	33.65	0.152	0	98.722	9.355066	25.23	99.66	52.014	39.293	8.693	100
Bravo-1-61	core	0.0136	49.795	0.3053	0.0109	0.0441	2.436	0.2915	8.8141	0.022	0.4254	36.625	0.005	0	98.788	8.004718	29.42	99.59	60.367	32.235	7.398	100
Bravo-1-62	core	0	53.234	0.0844	0.022	0.4263	3.6352	0	12.733	0.031	0.1997	29.428	0.25	0	100.04	5.139704	24.8	100.56	49.778	45.564	4.658	100
Bravo-1-63	core	0.0222	53.03	0.0658	0.0116	0.2748	2.887	0	12.544	0.022	0.3534	29.38	0.229	0.005	98.824	5.058328	24.83	99.331	50.190	45.201	4.609	100
Bravo-1-64	core	0.0237	48.392	0.2421	0.0569	0.1614	4.2387	0.2729	10.799	0.03	0.3719	33.538	0.162	0.14	98.429	10.22655	24.34	99.454	50.452	39.957	9.591	100
Bravo-1-65	core	0.0129	52.222	0.1388	0.0471	0.0111	3.8978	0	11.639	0.019	0.4105	30.726	0.143	0.048	99.314	5.477119	25.8	99.863	52.600	42.338	5.062	100
Bravo-1-66	core	0.0109	52.915	0.0459	0	0.257	2.596	0	12.064	0.007	0.3664	30.625	0.183	0.045	99.116	5.637558	25.55	99.681	51.531	43.354	5.115	100
Bravo-1-67	core	0.0145	52.062	0.192	0.0206	0.032	3.893	0	11.524	0	0.3456	31.243	0.167	0	99.494	5.816926	26.01	100.08	52.884	41.778	5.338	100
Bravo-1-68	core	0.0153	48.623	0.1837	0.0718	0.1235	4.2958	0.3739	10.861	0	0.3499	33.337	0.056	0.053	98.343	9.520092	24.77	99.297	51.100	40.000	8.901	100
Bravo-1-69	core	0.0376	52.7	0.0806	0	0.0355	2.3492	0.0756	11.307	0.036	0.3394	32.009	0.064	0.019	99.052	5.538679	27.03	99.607	54.415	40.568	5.017	100
Bravo-1-70	core	0.0217	52.944	0.0571	0.0284	0.3761	3.1969	0	12.639	0.017	0.2316	29.012	0.185	0.016	98.724	4.742079	24.74	99.2	50.062	45.600	4.338	100
Bravo-1-71	core	0.0139	52.862	0.0795	0.0536	0.3096	3.3848	0.1815	12.678	0	0.3265	29.19	0.25	0	99.329	4.882576	24.8	99.818	49.955	45.578	4.467	100
Bravo-1-73	core	0.0042	54.035	0.1412	0	0.0671	2.2143	0	11.835	0	0.2591	30.998	0.143	0	99.697	4.154894	27.26	100.11	54.282	41.996	3.722	100
Bravo-1-74	core	0.0123	48.964	0.2345	0.0097	0.1233	4.411	0.4577	11.059	0.041	0.3898	33.62	0.171	0	99.493	9.90088	24.71	100.48	50.554	40.325	9.122	100
Bravo-1-76	core	0.0314	53.332	0.0472	0.0039	0.2874	2.6758	0.1823	12.727	0.033	0.2893	29.611	0.152	0	99.373	4.928566	25.18	99.867	50.276	45.293	4.431	100
Bravo-1-77	core	0.0295	52.604	0.0484	0.0452	0.3461	3.1224	0.1029	12.485	0.016	0.2675	29.43	0.147	0.003	98.647	5.035078	24.9	99.151	50.346	45.038	4.616	100
Bravo-1-79	core	0.0074	51.328	0.0819	0.0329	0.0941	4.3056	0.1968	11.61	0	0.3918	30.671	0.229	0.066	99.015	6.05481	25.22	99.621	51.829	42.547	5.624	100
Bravo-1-81	core	0.013	49.082	0.2233	0.0453	0.1252	4.399	0.3244	10.875	0.011	0.3875	33.176	0.099	0.199	98.959	9.219006	24.88	99.882	51.353	40.046	8.601	100
Bravo-1-82	core	0	52.619	0.0633	0	0.1439	2.4492	0.1404	11.58	0.022	0.3157	31.142	0.065	0.051	98.59	5.136992	26.52	99.104	53.612	41.716	4.672	100
Bravo-1-84	core	0.0289	52.821	0.1338	0.0348	0.0603	2.2877	0.1376	11.172	0	0.5624	31.952	0.167	0	99.358	5.192185	27.28	99.878	55.052	40.207	4.741	100
Bravo-1-85	core	0.0108	53.417	0.0707	0.0194	0.2487	2.3414	0	11.951	0.054	0.2782	30.582	0.206	0	99.179	4.76797	26.29	99.657	52.848	42.826	4.326	100
Bravo-1-88	core	0.0263	52.912	0.1425	0.0019	0.0846	2.3963	0.0133	11.417	0.055	0.2919	31.67	0.135	0	99.146	5.247346	26.95	99.671	54.271	40.973	4.756	100
Bravo-1-91	core	0.0036	50.568	0.2513	0	0	3.3467	0.2348	10.1	0	0.4495	34.038	0.103	0	99.095	7.191399	27.57	99.816	56.489	36.882	6.630	100
Bravo-1-92	core	0.0115	53.03	0.0497	0	0.3331	2.81	0	12.388	0.055	0.2009	30.009	0.131	0.08	99.098	5.335162	25.21	99.633	50.738	44.431	4.831	100
Bravo-1-93	core	0.0181	53.175	0.0683	0.0103	0.3533	3.57	0.0849	12.626	0	0.274	29.33	0.187	0.016	99.712	4.720077	25.08	100.19	50.451	45.269	4.279	100
Bravo-1-94	core	0	52.142	0.1948	0.0684	0	3.2149	0.084	12.05	0	0.3282	31.158	0.089	0	99.329	6.415302	25.39	99.971	50.965	43.186	5.850	100
Bravo-1-95	core	0.0151	53.456	0.1141	0.0613	0.1329	2.6288	0.1329	12.318	0.014	0.2906	30.289	0.116	0.035	99.603	4.702933	26.06	100.07	51.928	43.810	4.263	100
Bravo-1-96	core	0.0129	52.736	0.0719	0	0.1664	2.3492	0.0758	11.518	0.035	0.3579	31.656	0.153	0.058	99.191	5.724824	26.51	99.765	53.432	41.376	5.192	100
Bravo-1-13*	core	0.023	45.31	0.1092	0.0679	0.4991	12.179	0.352	11.62	0	0.1705	28.096	0.244	0.013	98.683	8.591254	20.37	99.544	45.245	46.100	8.655	100
Bravo-1-38*	core	0.0397	52.2	0.0932	0.0291	0.4189	3.6942	0.0186	12.473	0.012	0.2643	28.921	0.154	0	98.317	4.933829	24.48	98.811	50.007	45.436	4.557	100
Bravo-1-47*	core	0.0226	52.449	0.1625	0.0419	0.0151	5.0143	0	12.383	0	0.3136	28.658	0.228	0.061	99.349	4.357827	24.74	99.785	50.686	45.265	4.050	100
Bravo-1-49*	core	0.0241	53.004	0.0646	0	0.3084	3.3219	0.0251	13	0	0.3854	28.583	0.192	0.043	98.952	5.067917	24.02	99.459	48.561	46.830	4.609	100
Bravo-1-62*	core	0.0155	52.674	0.1877	0.0369	0.0701	2.8844	0	12.808	0.02	0.3322	29.443	0.262	0.013	98.747	5.867189	24.16	99.334	48.654	46.001	5.345	100
Bravo-1-75*	core	0	49.578	0.5159	0.0348	0	2.3039	0.0818	8.6212	0.008	0.4517	37.182	0.068	0	98.845	8.651752	29.4	99.712	60.390	31.584	8.026	100
Bravo-1-87*	core	0.0085	52.903	0.0621	0.0116	0.2781	2.4868	0	11.874	0	0.2984	31.175	0.133	0.056	99.286	5.730902	26.02	99.86	52.281	42.529	5.190	100

* These ilmenite grains were mixed in with the Bravo-1 chromite analyses

Bravo-1 Pyroxene

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Bravo-1-1	54.7	0.2259	0.77237	0.7686	16.136	21.83	0.0427	3.698	0.019	1.5631	0	99.759
Bravo-1-2	54.557	0.2441	0.89111	0.9642	16.11	21.63	0.0868	3.797	0.052	1.7071	4E-04	100.04
Bravo-1-3	54.528	0.3554	0.8386	0.8351	15.881	21.69	0.1038	3.976	0	1.6834	0	99.894
Bravo-1-4	54.614	0.379	0.85698	0.7848	15.939	21.67	0.0783	3.792	0	1.6145	0	99.731
Bravo-1-5	54.338	0.2463	0.83616	1.154	15.929	21.52	0.0797	3.83	0	1.6868	0	99.624
Bravo-1-6	54.413	0.2204	0.74261	0.8478	16.106	21.93	0.1124	3.865	0.004	1.5913	0.013	99.85
Bravo-1-7	54.636	0.2515	0.83443	0.863	16.105	22.22	0.0783	3.696	0	1.5675	0.021	100.27

Bravo-1 Olivine

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Bravo-1-1	40.977	0	0	0.0097	50.827	0	0.1276	7.971	0.347	0.0091	0.019	100.29
Bravo-1-2	41.084	0.0156	0	0.0164	50.786	0.087	0.1362	7.741	0.346	0.0058	0.015	100.23

Charlie-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Charlie-1-1	dk purple	40.873	0.1305	17.2952	8.3214	18.393	6.386	0.4158	7.792	0.037	0.0307	0.044	99.717
Charlie-1-2	dk purple	41.971	0.0131	20.321	5.463	20.734	4.03	0.443	7.365	0	0.0169	0	100.36
Charlie-1-3	dk purple	41.976	0.045	20.1043	5.4963	19.858	5.012	0.4864	8.05	0	0.031	0.004	101.06
Charlie-1-4	dk purple	40.429	0.4206	16.408	9.1493	18.094	6.582	0.4415	8.757	0.059	0.0418	0	100.38
Charlie-1-5	dk purple	41.352	0.229	19.8364	5.3225	20.02	5.034	0.3964	7.769	0.01	0.0441	0	100.01
Charlie-1-6	dk purple	42.974	0.1159	19.9835	4.8587	20.402	5.549	0.3432	7.451	0.016	0.0146	0	101.71
Charlie-1-7	dk purple	40.739	0.1567	17.148	8.5854	18.428	6.484	0.5001	7.72	0	0.0196	0	99.781
Charlie-1-8	dk purple	40.688	0.2141	17.6048	7.7119	18.556	6.055	0.4159	8.495	0	0.0394	0	99.779
Charlie-1-9	dk purple	41.746	0.2109	20.8496	4.0121	20.343	4.696	0.4169	7.734	0	0.0367	0.012	100.06
Charlie-1-10	dk purple	41.178	0.0454	18.2857	7.5604	19.38	5.892	0.4743	7.211	0.06	0.021	0	100.11
Charlie-1-11	dk purple	40.894	0.0449	17.565	7.9527	18.651	6.721	0.4066	7.7	0.031	0.0136	0	99.98
Charlie-1-12	dk purple	42.244	0.0146	20.7901	4.3956	20.896	3.613	0.5097	7.889	0.003	0.006	0.019	100.38
Charlie-1-13	dk purple	41.494	0.0694	18.9818	6.545	19.718	5.474	0.4072	7.476	0.001	0.0299	0.02	100.22
Charlie-1-14	dk purple	41.754	0.0404	20.1244	5.6094	20.197	4.811	0.4488	7.413	0.04	0.0158	0.01	100.46
Charlie-1-15	dk purple	41.119	0	17.3105	8.252	18.211	7.016	0.3983	7.51	0	0.0032	0	99.821
Charlie-1-16	dk purple	41.375	0.066	18.2531	7.6144	19.412	5.825	0.48	7.082	0.022	0.012	0	100.14
Charlie-1-17	dk purple	42.006	0.0052	20.2332	5.3193	20.616	4.055	0.3814	7.352	0.03	0	0	99.997
Charlie-1-18	dk purple	41.447	0.0113	20.6666	4.9646	20.221	4.599	0.4743	7.788	0	0.0095	0.016	100.2
Charlie-1-19	dk purple	40.799	0.1503	17.5583	8.0243	18.4	6.233	0.4584	7.84	0.002	0.0253	0	99.491
Charlie-1-20	dk purple	41.317	0.1358	18.6234	6.8874	19.334	5.528	0.5284	7.749	0.007	0.0297	0.022	100.16
Charlie-1-21	dk purple	40.909	0.1494	17.4262	8.3032	18.447	6.403	0.4357	7.856	0.063	0.0286	0	100.02
Charlie-1-22	dk purple	41.754	0.0014	20.5575	4.9428	21.257	3.771	0.4225	7.194	0	0.0124	0	99.913
Charlie-1-23	dk purple	40.674	0.1588	17.4	8.1161	18.529	6.301	0.4714	7.915	0	0.0309	0	99.597
Charlie-1-24	dk purple	41.356	0.0572	19.392	6.0977	19.511	5.374	0.5383	8.13	0.012	0.034	0.014	100.52
Charlie-1-25	dk purple	41.591	0.058	19.9421	5.4941	19.694	5.072	0.5386	8.003	0.024	0.0386	0.031	100.49
Charlie-1-26	dk purple	41.34	0.0835	18.5088	7.0791	19.549	5.808	0.4161	7.328	0	0.0252	0.05	100.19
Charlie-1-27	dk purple	41.592	0.0085	20.1195	5.0902	20.048	4.693	0.524	7.665	0.001	0.0098	0	99.751
Charlie-1-28	dk purple	41.618	0.1156	20.6143	4.715	20.054	4.737	0.5112	7.985	0	0.0396	0.025	100.41
Charlie-1-29	dk purple	41.12	0.1371	17.9946	7.3173	19.125	5.775	0.4437	7.881	0.019	0.0349	0.019	99.865
Charlie-1-31	dk purple	41.026	0.127	17.353	8.4692	18.481	6.469	0.4823	7.995	0	0.0316	0	100.43
Charlie-1-32	dk purple	40.934	0.036	17.3313	8.3486	18.073	7.003	0.3745	7.769	0.007	0.0034	0.02	99.901
Charlie-1-33	dk purple	41.001	0.1232	17.1989	8.6453	18.378	6.477	0.5428	7.974	0	0.0282	0.009	100.38
Charlie-1-34	dk purple	41.644	0.2321	19.1344	6.0137	19.791	5.563	0.3487	7.435	0	0.0403	0.018	100.22
Charlie-1-35	dk purple	40.844	0.2347	17.8189	7.5774	18.58	5.927	0.3407	8.567	0	0.0465	0	99.937
Charlie-1-36	dk purple	41.291	0.1531	18.2986	7.1576	19.338	5.612	0.434	7.997	0.006	0.027	0	100.31
Charlie-1-37	dk purple	41.266	0.0876	18.0542	7.4948	19.943	5.369	0.4103	7.038	0	0.0325	0.01	99.705
Charlie-1-38	dk purple	41.309	0.2231	18.248	7.4285	19.288	5.846	0.4077	7.353	0.028	0.0329	0.018	100.18
Charlie-1-39	dk purple	40.78	0.2615	16.8604	8.5188	18.95	6.182	0.3954	7.7	0.018	0.0286	0	99.695
Charlie-1-40	dk purple	40.958	0.0009	17.5823	8.2591	18.191	7.018	0.4617	7.629	0	0	0	100.1
Charlie-1-41	dk purple	41.077	0.0197	17.5001	8.3214	18.44	7.001	0.3986	7.736	0.004	0.0047	0.007	100.51
Charlie-1-42	dk purple	40.962	0.2274	17.7151	7.7573	18.711	5.927	0.3869	8.584	0	0.0428	0.014	100.33
Charlie-1-43	dk purple	40.639	0.2042	17.4693	7.8694	18.632	5.922	0.397	8.49	0.015	0.0259	0.008	99.672
Charlie-1-44	dk purple	41.406	0.1473	18.4689	7.0605	19.423	5.872	0.381	7.593	0	0.0482	0.033	100.43
Charlie-1-45	dk purple	41.382	0.0286	18.3651	7.6581	19.316	5.815	0.4651	7.186	0.043	0.0337	0	100.29
Charlie-1-46	dk purple	40.781	0.3965	16.7758	8.2205	18.173	6.385	0.4342	8.924	0	0.0503	0	100.14
Charlie-1-47	dk purple	41.776	0.0122	20.5394	4.9542	21.131	3.934	0.409	7.337	0	0.0161	0.01	100.12
Charlie-1-48	purple	42.249	0.0033	21.3283	4.0862	21.133	3.679	0.433	7.786	0.01	0	0	100.71
Charlie-1-49	purple	41.507	0.0137	20.7759	4.463	19.306	5.198	0.5456	8.048	0	0.0208	0	99.878
Charlie-1-50	purple	40.996	0.0277	17.4633	8.1792	18.371	6.943	0.4385	7.614	0	0.0017	0.027	100.06
Charlie-1-51	purple	41.694	0.025	20.4394	4.9276	20.405	4.774	0.4472	7.275	0	0.0176	0	100
Charlie-1-52	purple	41.922	0.0085	21.6277	3.6029	20.378	4.525	0.5622	7.599	0	0.022	0	100.25
Charlie-1-53	purple	41.339	0.0127	20.5848	4.9023	19.877	4.924	0.4553	7.98	0	0.0033	0	100.08
Charlie-1-54	purple	41.418	0.0278	20.8849	4.3119	19.763	5.205	0.5318	8.064	0	0.0264	0	100.23
Charlie-1-55	purple	41.695	0.0061	20.7115	4.9526	20.907	3.973	0.4131	7.195	0	0.0025	0	99.856
Charlie-1-56	purple	41.664	0.0221	20.8016	4.7951	21.279	3.662	0.4373	7.417	0	0.0087	0	100.09
Charlie-1-57	purple	41.303	0.0846	19.8756	5.3033	19.733	5.15	0.5299	7.884	0	0.0387	0	99.901
Charlie-1-58	purple	41.683	0.0353	20.2809	5.4209	20.233	4.391	0.482	7.528	0.006	0.0121	0.042	100.11
Charlie-1-59	purple	41.889	0	20.5985	4.8675	20.639	4.219	0.4062	7.62	0	0.0064	0.025	100.27
Charlie-1-60	purple	41.588	0	20.7024	4.8225	20.993	3.792	0.416	7.463	0.04	0.0085	0.027	99.853

Charlie-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Charlie-1-61	purple	41.766	0.0118	20.9305	4.3094	20.671	4.176	0.4373	7.838	0	0.001	0.021	100.16
Charlie-1-62	purple	42.176	0	20.9682	4.3864	21.69	3.408	0.4025	7.029	0	0.009	0	100.07
Charlie-1-63	purple	41.713	0.0382	20.6073	4.6135	20.151	4.668	0.5009	7.797	0	0.0305	0	100.12
Charlie-1-64	purple	41.899	0.0132	21.162	4.1234	21.736	3.411	0.4037	7.273	0.013	0	0.003	100.04
Charlie-1-65	purple	41.324	0.0691	19.9936	5.3557	19.557	5.12	0.4707	7.966	0.061	0.0354	0.033	99.985
Charlie-1-66	purple	41.774	0.0123	21.1048	4.4492	20.941	4.048	0.4318	7.47	0	0.0105	0.01	100.25
Charlie-1-67	purple	41.718	0.0141	20.9112	4.0294	19.486	5.178	0.5348	8.136	0	0.0156	0	100.02
Charlie-1-68	purple	41.931	0	20.5705	4.9198	20.432	4.305	0.402	7.649	0	0.0037	0	100.21
Charlie-1-69	purple	41.852	0.0203	20.3757	4.9227	20.55	4.84	0.4388	7.228	0.012	0.0236	0	100.26
Charlie-1-70	purple	41.132	0.1449	18.6174	6.954	19.431	5.63	0.4924	7.703	0	0.0169	0.005	100.13
Charlie-1-71	purple	41.524	0.0193	20.3481	5.0142	19.541	5.219	0.5317	7.979	0.009	0.0082	0.007	100.2
Charlie-1-72	purple	40.682	0.1655	17.0523	8.6368	18.302	6.599	0.4605	7.825	0	0.0332	0	99.755
Charlie-1-73	purple	41.505	0.0621	20.1454	5.3318	19.77	5.103	0.4721	8.021	0.001	0.0278	0.026	100.47
Charlie-1-74	purple	42.168	0	21.3476	4.2182	21.774	3.408	0.343	7.225	0.019	0.0053	0.008	100.52
Charlie-1-75	purple	41.122	0.1736	18.0071	7.3251	19.336	5.703	0.4234	8.051	0.055	0.0264	0	100.22
Charlie-1-76	purple	41.369	0.0645	20.4278	4.7096	20.261	4.727	0.4991	8.108	0.019	0.0319	0.012	100.23
Charlie-1-77	purple	41.343	0.1608	18.1979	7.2446	19.306	5.678	0.5122	7.938	0	0.0324	0.044	100.46
Charlie-1-78	purple	41.907	0.0221	20.0637	5.5849	20.383	4.688	0.3692	7.226	0.018	0.0037	0	100.26
Charlie-1-79	purple	42.165	0.0146	21.2478	4.2335	21.649	3.412	0.4264	7.442	0.037	0.0105	0	100.64
Charlie-1-80	purple	41.983	0.008	21.2743	4.1957	21.694	3.277	0.3915	7.028	0	0.0059	0	99.857
Charlie-1-81	purple	42.043	0.0151	20.8087	4.848	21.107	3.822	0.4005	7.302	0.056	0.0138	0	100.42
Charlie-1-82	purple	41.933	0.034	20.871	4.2678	20.479	4.603	0.5	7.581	0	0.0293	0.052	100.35
Charlie-1-83	purple	41.595	0.0047	20.6325	4.8316	20.491	4.237	0.4884	7.566	0	0.0077	0.009	99.863
Charlie-1-84	purple	42.168	0.0024	20.7697	4.6506	21.444	3.663	0.4388	7.506	0	0.0105	0	100.65
Charlie-1-85	purple	41.868	0.008	20.7801	4.656	21.383	3.787	0.4857	7.392	0.047	0.0056	0.013	100.43
Charlie-1-86	purple	40.729	0.1385	17.231	8.548	18.369	6.566	0.4792	7.804	0.034	0.0169	0	99.915
Charlie-1-87	purple	41.832	0.0202	20.3431	5.3653	21.025	3.874	0.4893	7.378	0	0.0104	0	100.34
Charlie-1-88	purple	41.682	0.0755	22.4976	1.804	18.179	7.112	0.4582	8.517	0.006	0.0143	0.008	100.35
Charlie-1-89	purple	41.555	0.0776	19.9981	5.5722	19.601	5.111	0.5075	8.024	0	0.0341	0.003	100.48
Charlie-1-90	purple	41.898	0.0193	20.4634	5.0563	20.466	4.437	0.5558	7.614	0.028	0.0031	0	100.54
Charlie-1-91	purple	41.338	0.1478	18.8476	6.72	19.509	5.443	0.4984	7.946	0	0.0221	0.006	100.48
Charlie-1-92	purple	41.848	0.0762	22.7961	1.6965	20.138	4.269	0.4993	8.983	0.012	0.0358	0	100.35
Charlie-1-93	purple	41.37	0.0592	19.7859	5.595	19.54	5.115	0.4735	7.825	0.016	0.0368	0.031	99.849
Charlie-1-94	purple	41.534	0.079	19.9501	5.4909	19.863	4.932	0.5569	8.084	0	0.0358	0.046	100.57
Charlie-1-95	purple	42.066	0.0099	21.2782	4.5086	21.639	3.495	0.3756	7.361	0	0.0117	0	100.74
Charlie-1-96	purple	41.908	0.0155	20.4771	4.9684	20.829	4.228	0.399	7.586	0	0.0081	0	100.42
Charlie-1-97	purple	41.699	0.0226	20.7497	4.6729	21.25	3.703	0.4364	7.377	0	0.0136	0	99.924
Charlie-1-98	purple	41.805	0.0335	20.8133	4.1402	20.105	4.621	0.5806	7.967	0.024	0.0403	0.008	100.14
Charlie-1-99	purple	41.419	0.1671	20.0188	4.6985	19.805	4.863	0.5093	7.969	0	0.048	0.018	99.516
Charlie-1-100	purple	41.745	0.017	20.496	4.6889	20.2	4.675	0.4742	7.615	0.025	0.0044	0	99.94
Charlie-1-101	purple	41.915	0.0189	20.4238	5.1846	20.986	4.019	0.3878	7.349	0	0.0095	0	100.29
Charlie-1-102	purple	41.602	0.0559	19.9425	5.5776	19.779	4.956	0.5116	7.982	0	0.0307	0.009	100.45
Charlie-1-103	purple	42.125	0.0019	21.2199	4.1933	21.587	3.344	0.4114	7.212	0.013	0.0109	0.049	100.17
Charlie-1-104	purple	41.348	0.0612	19.8567	5.5079	19.746	4.949	0.4556	7.909	0	0.0425	0	99.875
Charlie-1-105	purple	42.284	0.0024	21.0925	4.2112	21.756	3.265	0.4056	7.015	0	0.0035	0	100.04
Charlie-1-106	purple	41.038	0.0019	20.5268	4.8365	19.275	5.485	0.4923	8.203	0.022	0.0191	0	99.9
Charlie-1-107	purple	41.812	0	20.8464	4.2889	19.474	5.257	0.4673	8.21	0.027	0.0106	0	100.39
Charlie-1-108	purple	41.397	0.0552	20.6997	4.3459	20.299	4.611	0.4886	7.688	0.016	0.0284	0	99.629
Charlie-1-109	purple	42.203	0.0453	21.4054	3.8299	21.599	3.269	0.3759	7.34	0.021	0.0062	0.023	100.12
Charlie-1-110	purple	41.627	0.2199	20.0307	5.3341	20.19	5.019	0.4472	7.976	0.01	0.0313	0	100.89
Charlie-1-111	purple	42.259	0	21.3569	4.0464	21.84	3.348	0.4481	7.276	0	0.0092	0.039	100.62
Charlie-1-112	purple	41.771	0.0141	20.5564	4.9347	20.606	4.492	0.5028	7.529	0	0.0118	0.02	100.44
Charlie-1-113	purple	41.898	0.0236	20.8092	4.2011	20.471	4.552	0.4578	7.661	0.012	0.018	0	100.1
Charlie-1-114	purple	41.088	0.2445	17.2604	8.2943	19.103	5.923	0.4288	7.421	0	0.0323	0.036	99.83
Charlie-1-115	purple	41.77	0.2841	20.6676	3.6206	20.303	4.849	0.4325	7.756	0	0.0404	0	99.723
Charlie-1-116	purple	41.627	0.2097	20.7372	3.8975	20.438	4.697	0.4011	7.879	0	0.0439	0.005	99.935
Charlie-1-117	purple	41.659	0.2926	19.6966	5.1746	20.163	4.986	0.4275	7.685	0.018	0.0594	0.003	100.16
Charlie-1-118	purple	41.161	0.1779	18.4964	6.789	19.326	5.507	0.4251	8.056	0.018	0.0319	0	99.988
Charlie-1-119	purple	41.8	0.2142	20.2352	4.6626	20.163	4.896	0.3825	7.698	0.006	0.0418	0	100.1

Charlie-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Charlie-1-120	purple	41.704	0.3019	20.8257	3.7297	20.465	4.864	0.5103	7.771	0.016	0.0422	0.029	100.26
Charlie-1-121	purple	41.405	0.1476	18.7395	6.573	19.39	5.508	0.3945	7.634	0	0.0208	0	99.811
Charlie-1-122	purple	42.018	0.2632	21.3977	2.9862	20.629	4.617	0.4015	7.739	0.049	0.0362	0.023	100.16
Charlie-1-123	purple	41.46	0.2152	19.6809	5.4094	20.047	5.044	0.3579	7.775	0.065	0.0591	0.019	100.13
Charlie-1-124	purple	41.575	0.247	19.9255	4.9421	19.93	4.99	0.4447	7.822	0.009	0.0292	0	99.913
Charlie-1-125	purple	41.488	0.1517	19.493	5.6369	20.241	5.086	0.3395	7.402	0.018	0.0222	0.001	99.879
Charlie-1-126	purple	41.63	0.1853	20.1901	4.5275	20.31	4.736	0.4376	7.827	0.012	0.0347	0	99.89
Charlie-1-127	purple	41.34	0.1278	18.7067	6.7293	19.172	5.544	0.4495	7.76	0.022	0.0342	0.009	99.894
Charlie-1-128	purple	41.43	0.1252	19.8947	5.1386	19.769	5.215	0.5431	8.106	0.007	0.0433	0.034	100.31
Charlie-1-129	purple	41.928	0.1916	20.4076	4.5551	20.212	4.747	0.4463	7.596	0.016	0.0266	0	100.13
Charlie-1-130	purple	41.849	0.2242	20.9425	3.7889	20.363	4.551	0.3932	7.747	0.013	0.0366	0.006	99.915
Charlie-1-131	purple	41.385	0.161	19.9681	5.1208	19.729	5.073	0.4413	8.212	0.021	0.0362	0	100.15
Charlie-1-132	purple	41.016	0.1432	18.5657	6.7983	19.383	5.569	0.4887	7.965	0	0.0319	0.017	99.977
Charlie-1-133	purple	41.76	0.1903	20.3215	4.5825	20.33	4.71	0.4551	7.835	0.003	0.0408	0.02	100.25
Charlie-1-134	purple	41.655	0.2069	19.8623	4.9126	19.972	4.937	0.4388	7.893	0.045	0.0355	0.003	99.961
Charlie-1-135	purple	41.61	0.1732	20.3385	4.6023	20.165	4.797	0.4692	7.593	0	0.0353	0	99.783
Charlie-1-136	purple	42.037	0.1998	20.3675	4.6224	20.388	4.764	0.4155	7.785	0.025	0.0575	0	100.66
Charlie-1-137	purple	41.681	0.2205	20.8893	4.0236	20.499	4.638	0.3614	7.871	0.031	0.0311	0	100.25
Charlie-1-138	purple	40.888	0.0488	17.5536	8.0087	18.467	6.632	0.3881	7.82	0.001	0.0132	0	99.821
Charlie-1-139	purple	42.013	0.5539	18.1032	4.84	20.647	5.5	0.2253	8.56	0	0.0443	0.016	100.5
Charlie-1-140	red	41.661	0.0912	22.5898	1.8332	18.051	7.166	0.4159	8.797	0.003	0.0179	0	100.62
Charlie-1-141	red	41.307	0.1319	18.1875	7.1515	19.049	5.786	0.4394	7.976	0.013	0.0263	0.025	100.09
Charlie-1-142	red	41.665	0.2118	19.9368	5.1254	19.996	5.021	0.4251	7.802	0.027	0.0493	0	100.26
Charlie-1-143	red	41.48	0.2363	20.7965	3.7518	20.318	4.73	0.4126	7.64	0.034	0.0534	0	99.453
Charlie-1-144	red	41.798	0.1864	20.495	4.717	20.265	4.813	0.4803	7.819	0.007	0.0355	0	100.62
Charlie-1-145	red	42.182	0.1483	22.5502	1.8343	20.045	4.159	0.5013	8.991	0	0.0407	9E-04	100.45
Charlie-1-146	red	41.798	0.2015	20.5755	4.4847	20.263	4.664	0.3543	7.77	0.053	0.0399	0.026	100.23
Charlie-1-147	red	41.676	0.2188	20.7538	3.9172	20.361	4.618	0.4227	7.93	0.068	0.0465	0	100.01
Charlie-1-148	red	41.603	0.1768	19.5439	5.577	20.207	5.03	0.428	7.473	0.077	0.0353	0.018	100.17
Charlie-1-149	red	41.248	0.1508	18.6745	6.9044	19.39	5.574	0.4749	7.894	0	0.0391	0	100.35
Charlie-1-150	red	41.324	0.1341	19.9386	5.0758	19.736	5.047	0.4979	7.95	0.003	0.0356	0	99.743
Charlie-1-151	red	41.714	0.2316	20.0523	5.1076	20.084	4.93	0.418	7.893	0.045	0.052	0.034	100.56
Charlie-1-152	red	41.798	0.2354	20.5526	3.9945	20.328	4.719	0.3645	7.855	0.027	0.0388	0.043	99.955
Charlie-1-153	red	41.648	0.1613	20.1011	4.8635	19.762	5.006	0.4889	8.083	0.024	0.036	0	100.17
Charlie-1-154	red	41.638	0.12	20.0919	5.0415	20.106	4.944	0.383	7.352	0.031	0.0241	0.006	99.737
Charlie-1-155	red	41.621	0.2462	20.0094	5.0268	20.038	4.956	0.4676	7.818	0.025	0.0361	7E-04	100.25
Charlie-1-156	red	41.713	0.2232	20.6114	4.0582	20.377	4.699	0.4314	7.739	0	0.0456	0.007	99.905
Charlie-1-157	red	41.177	0.1767	18.6437	6.8291	19.203	5.501	0.4893	7.918	0.013	0.0267	0.015	99.993
Charlie-1-158	red	41.797	0.2331	20.9816	3.792	20.409	4.725	0.4256	7.9	0	0.0501	0	100.31
Charlie-1-159	red	41.059	0.1568	18.2213	7.0206	19.159	5.563	0.4156	8.11	0	0.0255	0	99.731
Charlie-1-160	red	41.491	0.1676	20.1113	4.6792	20.204	4.798	0.4679	7.72	0.025	0.039	0.017	99.719
Charlie-1-161	red	40.744	0.1349	17.3505	8.3682	18.441	6.387	0.4811	7.976	0.021	0.0272	0	99.931
Charlie-1-162	red	41.082	0.1236	18.5132	6.9274	19.432	5.545	0.4669	7.612	0	0.0366	0	99.74
Charlie-1-163	red	41.608	0.1811	19.5304	5.6008	20.212	5.022	0.4323	7.409	0.004	0.0353	8E-04	100.04
Charlie-1-164	red	41.402	0.1193	18.3267	7.0631	19.13	5.671	0.5005	7.886	0	0.0343	0	100.13
Charlie-1-165	red	41.221	0.1664	18.455	7.0082	19.294	5.558	0.4398	7.757	0	0.0383	0	99.938
Charlie-1-166	red	41.953	0	21.1846	4.075	21.49	3.479	0.4247	7.055	0	0.0168	0	99.677
Charlie-1-167	red	41.586	0.243	19.8517	4.9975	20.099	4.987	0.343	7.795	0	0.0474	0.034	99.983
Charlie-1-168	red	41.606	0.2543	19.8401	5.0364	20.142	5.01	0.3854	7.912	0	0.0451	0	100.23
Charlie-1-169	red	41.818	0.2062	20.7475	4.0246	20.346	4.651	0.4045	7.632	0.012	0.03	0	99.872
Charlie-1-170	red	40.845	0.1395	17.1288	8.6866	18.291	6.67	0.4966	8.043	0.006	0.0292	0	100.34
Charlie-1-171	red	41.872	0.2272	20.98	3.5238	20.337	4.632	0.3693	7.74	0	0.0374	0	99.719
Charlie-1-172	red	41.302	0.1518	18.7156	6.8514	19.333	5.584	0.4794	7.766	0	0.0365	0	100.22
Charlie-1-173	red	41.875	0.1999	20.7055	4.1145	20.34	4.742	0.4341	7.903	0.018	0.0415	0.034	100.41
Charlie-1-174	red	41.134	0.187	18.0973	7.3548	19.127	5.83	0.4299	7.858	0.005	0.0319	0	100.05
Charlie-1-175	red	41.889	0.0854	22.6256	1.8511	19.989	4.313	0.4423	9.004	0.061	0.0393	0.006	100.3
Charlie-1-176	red	41.261	0.0415	19.5735	5.7104	19.377	5.844	0.391	7.613	0.03	0.0061	0	99.848
Charlie-1-177	red	41.194	0.265	18.3374	7.5212	19.464	5.915	0.4539	7.429	0	0.0393	0	100.62
Charlie-1-178	red	41.327	0.1284	18.5972	6.9591	19.355	5.857	0.4201	7.609	0	0.0209	0.007	100.28

Charlie-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Charlie-1-179	red	40.957	0.1494	18.4723	6.9833	19.201	5.644	0.4299	7.964	0.003	0.0333	0	99.836
Charlie-1-180	red	41.401	0.115	19.0413	6.1988	19.828	5.367	0.445	7.37	0	0.0365	0.003	99.804
Charlie-1-181	red	41.448	0.2406	20.0072	4.9798	20.147	5.033	0.479	7.817	0.037	0.0397	0.01	100.24
Charlie-1-182	red	41.524	0.2326	19.8716	5.1327	19.882	5.075	0.4196	7.806	0	0.0489	0	99.993
Charlie-1-183	red	41.641	0.1765	20.8292	4.1016	20.204	4.792	0.4586	7.896	0.031	0.0285	0	100.16
Charlie-1-184	red	42.048	0.2878	20.8604	3.6533	20.408	4.799	0.4018	7.741	0	0.0509	0	100.25
Charlie-1-185	red	41.678	0.1767	20.5246	4.6128	20.283	4.823	0.3985	7.788	0.012	0.0401	0	100.34
Charlie-1-186	red	41.866	0.1623	20.543	4.0655	20.278	4.685	0.3565	7.88	0	0.0364	0.021	99.893
Charlie-1-187	red	41.582	0.1986	20.8286	3.9164	20.424	4.646	0.3974	7.839	0.065	0.0429	0	99.94
Charlie-1-188	red	41.883	0.1788	20.9363	3.9956	20.455	4.76	0.3632	8.076	0	0.0512	0.047	100.75
Charlie-1-189	red	41.675	0.1704	21.0253	3.9329	20.358	4.745	0.4361	7.925	0	0.0388	0	100.31
Charlie-1-190	orange	41.155	0.14	23.089	0.1948	16.602	4.179	0.4841	14.74	0.024	0.0501	0	100.66
Charlie-1-191	orange	41.086	0.1086	23.0858	0.0972	16.219	4.168	0.4195	14.64	0.049	0.0398	0.023	99.934
Charlie-1-192	orange	40.855	0.1095	22.9086	0.1389	16.119	4.209	0.3841	15.29	0.031	0.039	0.015	100.1
Charlie-1-193	orange	41.171	0.1319	23.1281	0.1132	16.38	4.149	0.515	14.96	0.024	0.0527	0	100.62
Charlie-1-194	orange	41.268	0.1316	23.2842	0.1299	16.513	4.166	0.5267	14.85	0.043	0.0374	0	100.95
Charlie-1-195	orange	40.883	0.1314	23.0057	0.1353	14.43	5.418	0.3554	16.59	0	0.0458	0.019	101.02
Charlie-1-196	orange	40.9	0.115	22.9753	0.1623	16.344	4.075	0.4685	15.24	0	0.0484	0.008	100.33
Charlie-1-198	orange	40.972	0.1735	23.3644	0.1536	16.414	4.063	0.4493	15.04	0	0.0485	0	100.68
Charlie-1-199	orange	41.07	0.1282	23.1917	0.1086	16.37	3.98	0.4219	15.22	0	0.0558	0.027	100.57
Charlie-1-200	brown	41.794	0.5167	17.9489	4.8293	20.627	5.447	0.2812	8.572	0.064	0.0481	0.008	100.14
Charlie-1-204	brown	40.618	0.4093	16.3346	8.8969	17.78	6.474	0.4683	8.86	0	0.0471	0.047	99.936
Charlie-1-208	purple	41.651	0	20.5281	5.1718	20.996	3.918	0.4712	7.363	0	0.0122	0	100.11
Charlie-1-209	purple	41.54	0.0113	20.5407	4.4495	19.402	5.287	0.5619	8.19	0.059	0.0193	0	100.06
Charlie-1-210	purple	41.919	0	20.7864	4.9169	20.217	4.773	0.491	7.728	0	0.0017	0	100.83
Charlie-1-211	purple	40.986	0.0033	17.4237	8.2286	18.154	6.89	0.4102	7.503	0	0.0051	0.01	99.613
Charlie-1-212	purple	41.66	0.1615	20.2265	4.9105	19.858	4.889	0.5179	8.11	0.018	0.0456	0.008	100.4
Charlie-1-213	purple	41.762	0.0066	20.6468	4.9986	20.941	4.009	0.4571	7.207	0.036	0.0124	0.032	100.11
Charlie-1-214	purple	40.47	0.0768	16.3718	9.8484	18.109	7.075	0.4787	7.254	0.003	0.0222	0	99.708

Charlie-1 Chromite

Sample	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Charlie-1-1	0.055	1.318	0.03	0	5.114	57.423	0.5	10.236	0.034	0.626	24.55	0.054	0.037	99.977	6.569452	18.64	100.64
Charlie-1-2	0.023	1.383	0	0	4.008	60.957	0.34	10.675	0.008	0.442	22.253	0.116	0.082	100.29	5.03802	17.72	100.79
Charlie-1-3	0.044	1.828	0	0.013	4.027	57.367	0.17	8.811	0.031	0.416	27.156	0.09	0.071	100.02	7.140578	20.73	100.74
Charlie-1-4	0.019	1.139	0.036	0.011	8.206	56.765	0.09	10.351	0.024	0.375	22.823	0.153	0.19	100.18	5.154819	18.18	100.7
Charlie-1-5	0.012	1.311	0	0	5.817	57.271	0.14	9.879	0.018	0.39	24.583	0.15	0.026	99.597	6.542659	18.7	100.25
Charlie-1-6	0.027	0.298	0.029	0.025	9.097	58.343	0.16	11.159	0.062	0.289	20.883	0.083	0.19	100.65	4.649128	16.7	101.11
Charlie-1-8	0.004	0.146	0.001	0.003	7.896	58.267	0.34	9.864	0.046	0.45	22.158	0.101	0.071	99.347	4.510759	18.1	99.799
Charlie-1-9	0.007	2.742	0	0	2.958	54.708	0.53	8.993	0.042	0.494	28.075	0.171	0.123	98.843	7.832934	21.03	99.628
Charlie-1-10	0.014	0.801	0	0	8.47	56.111	0.22	10.207	0.017	0	23.039	0.108	0.183	99.17	5.14387	18.41	99.685
Charlie-1-11	0.033	2.279	0.02	0	3.782	58.83	0.33	10.75	0.03	0.594	22.892	0.196	0.176	99.912	5.507558	17.94	100.46
Charlie-1-12	0.017	0.21	0.019	0.013	10.613	58.144	0.14	10.635	0.005	0.335	19.54	0.043	0.082	99.796	2.321649	17.45	100.03
Charlie-1-13	0.019	1.058	0.008	0.027	6.738	57.924	0.18	10.526	0.058	0.266	23.428	0.115	0.171	100.52	6.055152	17.98	101.12
Charlie-1-14	0.003	1.252	0.029	0.024	8.113	54.513	0.29	9.717	0.043	0.404	25.441	0.169	0.185	100.18	6.609434	19.49	100.85
Charlie-1-15	0.026	1.025	0.065	0	8.534	55.758	0.28	10.673	0.087	0.521	22.538	0.157	0.13	99.794	5.401996	17.68	100.34
Charlie-1-16	0.018	0.142	0.024	0	10.56	58.099	0.21	10.935	0.076	0.414	19.3	0.03	0.233	100.04	2.748932	16.83	100.32
Charlie-1-17	0.018	0.342	0	0	10.049	57.93	0.39	10.738	0	0.392	20.006	0.104	0.183	100.15	2.667708	17.61	100.42
Charlie-1-18	0.016	0.631	0	0	8.533	55.714	0.14	10.226	0.044	0.708	23.131	0.125	0.283	99.551	6.364548	17.4	100.19
Charlie-1-19	0.018	0.375	0.008	0	8.12	57.625	0.29	9.787	0.094	0.611	23.12	0.097	0.211	100.36	5.249985	18.4	100.88
Charlie-1-20	0.006	1.122	0.002	0.013	6.335	54.386	0.2	8.995	0.039	0.603	27.916	0.097	0.061	99.775	8.875396	19.93	100.66
Charlie-1-21	0.027	1.183	0.008	0.023	6.623	53.782	0.23	9.248	0.082	0.537	27.418	0.146	0.103	99.41	8.758457	19.54	100.29
Charlie-1-22	0.073	0.719	0.014	0.063	4.142	61.621	0.32	10.542	0.014	0.306	21.998	0.066	0.063	99.941	4.991002	17.51	100.44
Charlie-1-23	0.013	0.458	0.036	0	9.799	58.253	0.14	11.281	0.028	0.375	19.363	0.11	0.114	99.97	3.214593	16.47	100.29
Charlie-1-24	0.013	0.068	0.032	0	11.551	58.539	0.36	11.057	0.057	0.311	17.726	0.11	0.141	99.965	0.762709	17.04	100.04
Charlie-1-25	0.002	0.844	0	0.01	9.6	55.06	0.29	10.761	0.026	0.436	22.41	0.155	0.244	99.838	5.408462	17.54	100.38
Charlie-1-26	0.027	0.496	0	0.004	9.844	59.856	0.3	10.769	0.062	0.454	18.147	0.121	0.209	100.29	0.858267	17.37	100.37
Charlie-1-27	0.015	0.076	0	0	11.137	58.102	0.33	11.258	0.046	0.333	19.021	0.072	0.212	100.6	2.474314	16.79	100.85
Charlie-1-28	0.036	1.181	0	0	6.859	53.558	0.18	9.303	0.067	0.283	27.773	0.116	0.045	99.401	8.90489	19.76	100.29
Charlie-1-29	0.01	0	0	0	9.505	57.891	0.2	10.851	0.066	0.243	20.808	0.134	0.186	99.894	4.542135	16.72	100.35
Charlie-1-30	0.003	0.004	0	0.016	10.02	57.123	0.17	10.998	0	0.438	20.282	0.065	0.157	99.276	4.417083	16.31	99.719
Charlie-1-31	0.016	0.221	0.035	0	10.917	58.156	0.22	11.047	0.03	0.618	19.142	0.019	0.202	100.62	2.517025	16.88	100.88
Charlie-1-32	0.003	0.257	0	0	10.006	60.733	0.24	11.332	0.044	0.275	16.981	0.03	0.146	100.05	0.575814	16.46	100.1
Charlie-1-33	0.023	0.121	0	0	9.531	57.7	0.26	10.664	0.093	0.318	21.241	0.113	0.103	100.17	4.374831	17.3	100.61
Charlie-1-34	0.009	0.497	0.008	0	11.347	55.717	0.26	9.682	0.01	0.42	21.516	0.124	0.18	99.77	2.596667	19.18	100.03
Charlie-1-35	0.028	1.273	0.005	0.009	8.759	54.249	0.31	9.966	0.025	0.409	24.283	0.108	0.093	99.517	5.651389	19.2	100.08
Charlie-1-36	0.03	0.361	0.036	0	9.345	57.128	0.27	10.998	0.041	0.34	21.559	0.052	0.103	100.26	4.869367	17.18	100.75
Charlie-1-37	0.01	0	0.019	0	11.479	52.811	0.21	10.114	0.033	0.341	23.861	0.177	0.074	99.129	6.531579	17.98	99.783
Charlie-1-38	0.044	1.357	0	0.006	7.552	53.527	0.17	9.582	0.031	0.475	26.251	0.148	0.135	99.278	7.752875	19.27	100.05
Charlie-1-39	0.015	0.152	0.031	0.015	15.415	51.755	0.19	11.102	0.009	0.403	21.162	0.107	0.184	100.54	3.996635	17.57	100.94
Charlie-1-40	0.022	0.408	0.025	0.012	7.462	56.083	0.19	10.534	0.03	0.309	23.263	0.096	0.18	98.614	7.037244	16.93	99.319
Charlie-1-41	0.018	2.692	0.011	0.062	2.678	51.079	0.52	7.985	0	0.601	33.131	0.171	0.071	99.019	11.67141	22.63	100.19
Charlie-1-42	0.013	0.954	0.09	0	8.262	57.275	0.22	9.516	0.034	0.524	22.856	0.113	0.119	99.976	3.839769	19.4	100.36
Charlie-1-43	0.015	2.823	0	0	2.256	52.928	0.53	8.406	0.007	0.628	31.648	0.193	0.256	99.69	10.74296	21.98	100.77
Charlie-1-44	0.023	1.337	0	0	5.012	57.994	0.37	10.133	0.048	0.461	23.999	0.123	0.124	99.624	6.21384	18.41	100.25
Charlie-1-45	0.006	0.465	0	0	9.873	56.411	0.18	10.589	0.058	0.35	21.415	0.152	0.201	99.7	4.495816	17.37	100.15
Charlie-1-46	0	0.029	0	0.074	10.327	58.553	0.18	11.021	0.043	0.554	18.724	0.12	0.205	99.83	2.733122	16.26	100.1
Charlie-1-47	0.023	0.351	0	0.001	8.592	57.94	0.3	10.118	0	0.281	21.671	0.068	0.135	99.48	3.862416	18.2	99.867
Charlie-1-48	0.011	0.139	0.008	0.008	10.785	57.834	0.29	11.063	0	0.356	18.998	0.096	0.072	99.66	2.36372	16.87	99.897
Charlie-1-49	0.049	3.234	0.018	0.018	4.347	54.828	0.39	10.337	0.032	0.537	25.293	0.182	0.069	99.334	6.290512	19.63	99.964
Charlie-1-50	0.01	0.176	0	0.039	9.571	57.934	0.13	10.324	0.012	0.216	21.531	0.192	0.117	100.25	4.133159	17.81	100.67
Charlie-1-51	0.009	1.232	0	0.015	9.528	55.76	0.26	10.521	0.025	0.399	21.481	0.168	0.09	99.488	3.603416	18.24	99.849
Charlie-1-52	0	0.4	0	0.028	9.353	56.094	0.22	10.328	0.002	0.489	22.212	0.134	0.058	99.318	5.060742	17.66	99.825
Charlie-1-53	0.005	0.759	0.02	0	7.405	55.723	0.33	9.519	0	0.457	25.536	0.106	0.108	99.968	6.872403	19.35	100.66
Charlie-1-54	0.019	0.885	0.064	0	7.11	57.952	0.1	9.757	0.005	0.415	23.534	0.052	0.114	100.01	5.232328	18.83	100.53
Charlie-1-55	0.019	0.684	0	0.034	8.208	58.013	0.28	10.712	0.075	0.405	21.152	0.148	0.056	99.786	4.183174	17.39	100.21
Charlie-1-56	0.014	0.61	0.025	0	7.687	56.868	0.28	9.796	0.046	0.624	23.401	0.117	0.111	99.579	5.564889	18.39	100.14
Charlie-1-57	0.014	1.058	0	0	6.428	56.264	0.35	9.364	0.035	0.739	24.655	0.108	0.143	99.158	6.177635	19.1	99.777
Charlie-1-58	0.004	0	0	0	9.786	58.09	0.26	10.615	0.003	0.404	20.41	0.134	0.08	99.786	3.598638	17.17	100.15
Charlie-1-59	0.023	1.265	0	0	7.13	56.473	0.16	10.17	0.007	0.591	23.058	0.166	0.095	99.138	5.588533	18.03	99.698
Charlie-1-60	0	0.319	0	0.041	10.996	53.218	0.22	8.658	0.035	0.762	25.06	0.11	0.085	99.504	5.448795	20.16	100.05
Charlie-1-61	0.016	0.511	0	0.016	10.34	57.681	0.2	11.062	0.113	0.604	20.001	0.086	0.159	100.79	3.418917	16.92	101.13
Charlie-1-62	0.025	0.148	0	0	8.061	58.38	0.31	10.581	0.026	0.669	20.922	0.085	0.172	99.379	4.64145	16.75	99.844
Charlie-1-63	0.031	1.549	0.044	0	1.928	61.05	0.34	9.291	0.008	0.685	24.648	0.118	0.142	99.834	5.964799	19.28	100.43
Charlie-1-64	0.023	0.216	0.036	0	9.727	57.51	0.28	10.55	0.042	0.52	20.882	0.093	0.157	100.04	3.828735	17.44	100.42
Charlie-1-65	0.041	3.194	0	0.037	4.282	55.277	0.39	10.492	0	0.318	25.078	0.202	0.129	99.44	6.148047	19.55	100.06
Charlie-1-66	0.056	0.841	0.018	0	6.668	58.698	0.36	11.306	0.05	0.355	21.434	0.058	0.021	99.865	5.157196	16.79	100.38
Charlie-1-67	0.046	2.439	0.01	0	4.126	57.227	0.34	9.814	0.016	0.371	24.679	0.207	0.008	99.283	5.452069	19.77	99.829
Charlie-1-68	0.026	0.157	0	0.008	10.209	57.936	0.14	11.089	0.026	0.533	20.604	0.083	0.196	101.01	4.350292	16.69	101.44
Charlie-1-69	0.018	1.418	0	0	2.499	52.12	0.36	7.721	0.032	0.413	34.027	0.175	0.194	98.977	13.78134	21.63	100.36
Charlie-1-70	0.027	0.543	0.024	0.023	11.534	56.043	0.2	11.703	0	0.486	19.077	0.137	0.2	99.997	3.296368	16.11	100.33
Charlie-1-71	0.023	0.9	0	0.004	8.509	58.133	0.54	10.471	0	0.539	20.817	0.098	0.072	100.11	2.619543	18.46	100.37
Charlie-1-72	0.032	0.369	0	0.013	7.001	58.318	0.29	10.87	0	0.448	22.699	0.105	0	100.15	6.349178	16.99	100.78

Charlie-1 Chromite

Sample	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Charlie-1-73	0.004	0.132	0	0.049	9.821	56.701	0.24	10.546	0.012	0.515	21.276	0.063	0.141	99.5	4.522184	17.21	99.953
Charlie-1-74	0.018	0.641	0.011	0.069	4.475	54.16	0.44	8.439	0.028	0.386	30.099	0.062	0.071	98.899	10.68565	20.48	99.97
Charlie-1-75	0.004	0.311	0.005	0.008	9.027	58.928	0.24	11.047	0.048	0.283	20.307	0.068	0.127	100.4	3.744034	16.94	100.78
Charlie-1-76	0.042	1.972	0.041	0	7.167	55.885	0.36	11.372	0.032	0.283	22.479	0.25	0.212	100.1	5.419167	17.6	100.64
Charlie-1-77	0.014	0.77	0	0	8.798	56.884	0.14	10.607	0.026	0.57	21.819	0.103	0.156	99.887	4.946358	17.37	100.38
Charlie-1-78	0	2.48	0	0	2.195	55.095	0.55	8.945	0.048	0.609	29.256	0.194	0	99.372	9.255955	20.93	100.3
Charlie-1-79	0.017	2.684	0.028	0	2.712	53.509	0.54	8.847	0.039	0.577	29.535	0.208	0.053	98.749	9.310048	21.16	99.682
Charlie-1-80	0	1.462	0.02	0	4.149	59.865	0.22	9.347	0.082	0.654	23.584	0.109	0.219	99.711	5.046822	19.04	100.22
Charlie-1-81	0.005	1.074	0	0.024	6.379	56.211	0.5	9.493	0.033	0.68	24.957	0.103	0.074	99.533	6.188082	19.39	100.15
Charlie-1-82	0.027	2.995	0	0.025	2.574	49.947	0.6	8.042	0	0.583	33.655	0.206	0.191	98.845	12.13857	22.73	100.06
Charlie-1-83	0	0	0	0	11.501	54.58	0.32	10.399	0.058	0.39	22.224	0.056	0.168	99.696	4.918842	17.8	100.19
Charlie-1-84	0.021	2.941	0	0.02	2.595	50.724	0.6	8.361	0.003	0.497	32.865	0.147	0.074	98.848	11.59792	22.43	100.01
Charlie-1-85	0.003	0.117	0.032	0	10.259	56.307	0.35	10.724	0.039	0.379	21.971	0.1	0.106	100.39	4.901282	17.56	100.88
Charlie-1-86	0.013	0.648	0.029	0.031	9.227	57.056	0.21	10.055	0.004	0.467	21.718	0.056	0.159	99.673	3.68292	18.4	100.04
Charlie-1-87	0.032	0.291	0.037	0	6.81	58.942	0.32	10.445	0.057	0.254	22.402	0.042	0.048	99.68	5.345856	17.59	100.22
Charlie-1-88	0.035	0.844	0.026	0.014	9.126	55.98	0.32	10.866	0	0.594	22.301	0.203	0.162	100.47	5.306397	17.53	101
Charlie-1-89	0.026	1.396	0	0	5.45	60.558	0.25	8.968	0.042	0.427	22.857	0.088	0.184	100.25	2.848033	20.29	100.53
Charlie-1-90	0.003	0.975	0	0	7.881	55.638	0.26	8.904	0.064	0.345	25.679	0.134	0.013	99.896	5.76925	20.49	100.47
Charlie-1-91	0.015	0.323	0.037	0.015	9.101	57.54	0.23	10.592	0.072	0.319	21.02	0.114	0.104	99.482	4.12074	17.31	99.895
Charlie-1-92	0.024	0.202	0	0	9.892	57.303	0.05	11.056	0.003	0.502	20.8	0.058	0.125	100.02	4.864485	16.42	100.5
Charlie-1-93	0.011	0	0	0	11.324	58.161	0.4	10.859	0.01	0.408	18.399	0.056	0.133	99.761	1.29236	17.24	99.89
Charlie-1-94	0.004	0.156	0	0.018	8.687	57.987	0.23	10.551	0.036	0.444	20.867	0.057	0.125	99.162	4.337022	16.96	99.597
Charlie-1-95	0.024	0.557	0	0.026	9.46	56.946	0.2	10.915	0.017	0.338	20.919	0.105	0.141	99.648	4.249027	17.1	100.07
Charlie-1-96	0.025	0.133	0.022	0.033	10.577	58.081	0.26	10.646	0.021	0.504	19.27	0.173	0.13	99.875	2.264553	17.23	100.1
Charlie-1-97	0.023	1.182	0	0	9.93	55.525	0.26	10.442	0.035	0.284	21.621	0.109	0.143	99.554	3.445499	18.52	99.899
Charlie-1-98	0.022	2.891	0	0.013	2.158	52.761	0.61	8.435	0	0.75	30.983	0.291	0.018	98.932	10.11939	21.88	99.946
Charlie-1-99	0.022	0.194	0	0	8.852	57.305	0.18	10.212	0.062	0.356	22.219	0.012	0.035	99.449	4.946586	17.77	99.945
Charlie-1-100	0.033	0.798	0	0.025	6.403	57.952	0.24	10.397	0.014	0.578	22.835	0.16	0.024	99.459	5.950515	17.48	100.06
Charlie-1-3*	0.018	2.962	0.036	0	2.513	51.966	0.54	8.61	0.077	0.501	31.891	0.168	0	99.282	10.91938	22.07	100.38
Charlie-1-5*	0.001	0.355	0	0	8.444	57.975	0.23	10.517	0.025	0.388	21.231	0.171	0.135	99.472	4.483549	17.2	99.921
Charlie-1-7*	0.086	0.609	0.003	0	6.887	60.331	0.35	11.578	0.037	0.303	20.213	0.109	0.013	100.52	4.202722	16.43	100.94
Charlie-1-9*	0.068	3.318	0.032	0	4.526	54.403	0.37	10.173	0.05	0.54	25.693	0.127	0.047	99.347	6.282383	20.04	99.976
Charlie-1-11*	0.012	0.702	0	0.005	7.237	52.859	0.23	8.646	0.029	0.439	29.269	0.078	0.055	99.561	9.827835	20.43	100.55
Charlie-1-15*	0.044	0.329	0	0.008	9.154	57.63	0.13	10.972	0.026	0.151	21.291	0.119	0.061	99.915	4.772989	17	100.39
Charlie-1-16*	0.016	1.107	0.043	0	5.911	58.597	0.08	9.483	0.014	0.404	24.004	0.082	0.229	99.97	5.495855	19.06	100.52
Charlie-1-17*	0.021	0.21	0	0	8.285	58.336	0.2	10.875	0.034	0.455	20.52	0.106	0.04	99.082	4.555644	16.42	99.538
Charlie-1-19*	0	0.046	0.022	0.011	9.752	57.198	0.27	10.508	0.027	0.171	21.527	0.099	0.058	99.689	4.308861	17.65	100.12
Charlie-1-22*	0.009	2.826	0.01	0.055	2.196	54.174	0.58	8.914	0.021	0.448	30.069	0.22	0.016	99.538	9.423066	21.59	100.48
Charlie-1-24*	0.008	3.087	0	0	2.298	50.039	0.6	7.94	0.029	0.503	34.507	0.219	0.018	99.248	12.54281	23.22	100.5
Charlie-1-25*	0.02	2.815	0	0	2.241	53.106	0.73	8.484	0.067	0.448	31.251	0.205	0.209	99.576	9.989082	22.26	100.58
Charlie-1-30*	0.004	2.746	0.009	0	2.173	52.515	0.54	8.339	0.06	0.616	32.304	0.177	0.152	99.635	11.37936	22.06	100.78
Charlie-1-31*	0.014	0.509	0.017	0.051	9.134	54.91	0.25	9.081	0	0.536	25.469	0.193	0.187	100.35	6.241496	19.85	100.98
Charlie-1-34*	0	2.979	0.014	0.024	2.619	51.836	0.65	8.488	0	0.474	31.93	0.187	0.073	99.274	10.53981	22.45	100.33
Charlie-1-38*	0	0.17	0	0	9.506	58.573	0.15	10.858	0.007	0.461	19.677	0.12	0.074	99.596	3.392043	16.62	99.936
Charlie-1-39*	0.016	0.233	0	0	8.856	54.393	0.25	9.473	0.06	0.426	25.793	0.091	0.14	99.731	7.627361	18.93	100.5
Charlie-1-40*	0.011	0.253	0	0	8.305	59.324	0.2	11.082	0.044	0.466	19.862	0.131	0.151	99.829	4.053603	16.21	100.24
Charlie-1-41*	0.028	1.14	0	0	7.495	54.42	0.24	9.419	0	0.53	26.099	0.101	0.119	99.591	7.289165	19.54	100.32
Charlie-1-43*	0.025	1.169	0.001	0.015	7.449	54.167	0.37	9.519	0.015	0.339	26.004	0.162	0.034	99.269	7.008506	19.7	99.971
Charlie-1-46*	0.006	2.706	0.008	0	2.97	54.798	0.51	9.12	0.003	0.508	28.156	0.13	0.013	98.928	7.974655	20.98	99.727
Charlie-1-47*	0.009	0.314	0.001	0.011	8.448	57.685	0.26	10.566	0.031	0.584	21.18	0.058	0.146	99.293	4.657696	16.99	99.76
Charlie-1-48*	0.008	0.145	0	0	9.428	58.103	0.27	10.546	0.024	0.455	21.685	0.023	0.151	100.84	4.439352	17.69	101.28
Charlie-1-49*	0.026	0.1	0	0	9.837	56.644	0.23	11.008	0.008	0.169	21.228	0.07	0.21	99.53	4.960346	16.76	100.03
Charlie-1-59*	0.023	3.222	0	0.019	2.25	50.455	0.61	7.867	0	0.39	34.32	0.188	0.065	99.409	11.84063	23.67	100.6
Charlie-1-61*	0.008	2.166	0.013	0	2.05	55.141	0.43	8.778	0.025	0.765	29.227	0.151	0.163	98.917	9.876647	20.34	99.907
Charlie-1-64*	0.025	1.007	0.014	0	8.423	58.65	0.36	10.286	0	0.312	20.883	0.138	0.228	100.33	2.454634	18.67	100.57
Charlie-1-67*	0.068	3.294	0.011	0.009	4.31	55.146	0.54	10.454	0.088	0.451	25.511	0.16	0.1	100.14	6.104194	20.02	100.75
Charlie-1-68*	0.006	0.058	0	0.018	9.743	56.968	0.33	10.559	0.04	0.383	21.309	0.07	0.207	99.691	4.42355	17.33	100.13
Charlie-1-72*	0	0.718	0	0	8.14	57.197	0.11	9.889	0.004	0.417	23.522	0.072	0.114	100.18	5.464451	18.61	100.73
Charlie-1-74*	0.023	0.372	0.003	0	9.268	57	0.26	10.98	0.032	0.452	21.134	0.159	0.186	99.869	4.88628	16.74	100.36
Charlie-1-75*	0.013	0.521	0.005	0	10.43	56.122	0.13	10.948	0.011	0.386	21.262	0.084	0.136	100.05	4.566595	17.15	100.51
Charlie-1-76*	0.04	1.179	0.019	0.022	7.217	57.094	0.21	10.256	0.061	0.589	23.094	0.12	0.19	100.09	5.481843	18.16	100.64
Charlie-1-77*	0.016	1.18	0	0	7.13	57.386	0.12	10.147	0.066	0.406	22.808	0.052	0.154	99.465	5.135386	18.19	99.98
Charlie-1-78*	0.003	0.107	0.026	0.014	9.602	57.086	0.35	10.472	0.036	0.383	21.796	0.051	0.082	100.01	4.468689	17.78	100.46
Charlie-1-79*	0.037	0.093	0	0	9.515	57.411	0.21	10.36	0.086	0.418	21.725	0.08	0.103	100.04	4.601433	17.58	100.5
Charlie-1-80*	0.037	3.459	0.007	0	1.509	46.114	0.78	7.117	0.097	0.656	38.655	0.228	0.018	98.677	15.57607	24.64	100.24
Charlie-1-81*	0.011	3.494	0	0.025	1.464	46.121	0.76	7.004	0.06	0.467	38.836	0.207	0.031	98.48	15.42775	24.95	100.03
Charlie-1-82*	0.015	0.148	0	0.003	10.958	58.705	0.3	10.947	0.087	0.443	19.03	0.065	0.263	100.96	2.065519	17.17	101.17
Charlie-1-83*	0.013	0.031	0	0.021	11.165	58.531	0.36	11.016	0.015	0.31	18.744	0.091	0.184	100.48	1.717609	17.2	100.65
Charlie-1-84*	0.026	0.321	0.009	0.01	9.245	56.408	0.18	10.536	0.045	0.407	22.224	0.073	0.09	99.574	5.391152	17.37	100.11
Charlie-1-85*	0.021	0.218	0	0.061	8.344	58.413	0.09	10.087	0.076	0.31	21.74	0.148	0.069	99.577	4.504589	17.69	100.03

* These chromite grains were mixed in with the Charlie-1 ilmenite analyses

Charlie-1 Ilmenite

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
Charlie-1-1	core	0.01	49.657	0.253	0.045	0.218	4.305	0.31	10.554	0.016	0.323	33.552	0.164	0	99.407	8.230598	26.15	100.23	53.692	38.665	7.643	100
Charlie-1-2	core	0.014	49.84	0.315	0.016	0.135	4.321	0.29	10.522	0	0.29	33.202	0.175	0	99.12	7.523463	26.43	99.874	54.409	38.611	6.981	100
Charlie-1-4	core	0.013	49.755	0.239	0.013	0.082	4.328	0.54	10.625	0	0.428	33.271	0.136	0.019	99.449	7.677206	26.36	100.22	54.065	38.841	7.094	100
Charlie-1-6	core	0.023	50.185	0.26	0.032	0.096	4.334	0.35	10.57	0	0.343	33.274	0.089	0.037	99.593	7.295006	26.71	100.32	54.671	38.584	6.744	100
Charlie-1-8	core	0.004	50.391	0.192	0.026	0.112	4.237	0.57	10.507	0	0.316	33.39	0.103	0.003	99.851	6.769485	27.3	100.53	55.610	38.165	6.225	100
Charlie-1-10	core	0.006	49.368	0.256	0.048	0.164	4.369	0.52	10.541	0	0.35	33.308	0.127	0.095	99.152	7.914582	26.19	99.945	53.911	38.717	7.372	100
Charlie-1-12	core	0.008	50.143	0.281	0.008	0.137	4.349	0.27	10.615	0.022	0.291	33.392	0.117	0.048	99.681	7.723271	26.44	100.45	54.141	38.738	7.121	100
Charlie-1-13	core	0.004	50.121	0.272	0.017	0.161	4.423	0.15	10.55	0.016	0.303	33.37	0.167	0	99.554	7.823722	26.33	100.34	54.105	38.648	7.247	100
Charlie-1-14	core	0	49.731	0.202	0	0.203	4.464	0.36	10.807	0	0.446	33.545	0.139	0	99.897	8.758155	25.66	100.77	52.523	39.413	8.064	100
Charlie-1-18	core	0.01	49.766	0.172	0.024	0.091	4.278	0.45	10.492	0.01	0.415	33.393	0.117	0	99.218	7.733632	26.43	99.993	54.356	38.469	7.175	100
Charlie-1-20	core	0.011	49.558	0.205	0.013	0.082	4.434	0.41	10.536	0	0.289	33.22	0.117	0.087	98.962	7.802884	26.2	99.744	54.023	38.727	7.250	100
Charlie-1-21	core	0	49.819	0.213	0.011	0.135	4.572	0.33	10.522	0.023	0.359	33.361	0.108	0	99.453	7.834502	26.31	100.24	54.143	38.594	7.263	100
Charlie-1-23	core	0.029	50.307	0.256	0.029	0.219	4.409	0.34	10.555	0.037	0.155	33.462	0.13	0	99.928	7.217456	26.97	100.65	54.981	38.374	6.644	100
Charlie-1-26	core	0.003	49.547	0.239	0.039	0.092	4.276	0.47	10.604	0.017	0.355	33.242	0.144	0	99.028	7.860614	26.17	99.816	53.806	38.890	7.305	100
Charlie-1-27	core	0.018	49.918	0.202	0.054	0.072	4.3	0.43	10.602	0.01	0.426	33.207	0.153	0	99.392	7.610476	26.36	100.15	54.100	38.827	7.073	100
Charlie-1-28	core	0.022	49.726	0.202	0.016	0.101	4.416	0.23	10.696	0.001	0.272	33.203	0.134	0.003	99.022	8.153884	25.87	99.839	53.212	39.227	7.561	100
Charlie-1-29	core	0.008	49.583	0.204	0.01	0.177	4.55	0.41	10.602	0	0.387	33.416	0.099	0.114	99.56	8.251351	25.99	100.39	53.474	38.879	7.646	100
Charlie-1-32	core	0.007	49.623	0.209	0.014	0.128	4.597	0.29	10.55	0.002	0.186	33.045	0.15	0.024	98.825	7.642026	26.17	99.591	54.046	38.841	7.113	100
Charlie-1-33	core	0.015	50.723	0.249	0.052	0.176	4.463	0.25	10.557	0.004	0.308	32.903	0.169	0.061	99.93	6.579621	26.98	100.59	55.293	38.599	6.108	100
Charlie-1-35	core	0.002	49.946	0.227	0.029	0.082	4.561	0.44	10.655	0.001	0.287	32.996	0.122	0.021	99.369	7.262893	26.46	100.1	54.289	38.983	6.728	100
Charlie-1-36	core	0.027	50.406	0.239	0.035	0.104	4.383	0.13	10.698	0	0.353	33.431	0.149	0.032	99.987	7.976648	26.25	100.79	53.648	38.989	7.363	100
Charlie-1-37	core	0.008	49.726	0.196	0.114	0.097	4.42	0.28	10.576	0	0.346	33.192	0.12	0.045	99.12	7.879311	26.1	99.909	53.714	38.893	7.392	100
Charlie-1-42	core	0.011	49.529	0.243	0.053	0.13	4.351	0.49	10.522	0.043	0.247	33.155	0.105	0.034	98.913	7.465979	26.44	99.661	54.406	38.637	6.957	100
Charlie-1-44	core	0	49.707	0.161	0	0.191	4.446	0.42	10.609	0.015	0.304	33.305	0.099	0.058	99.315	7.942884	26.16	100.11	53.782	38.870	7.347	100
Charlie-1-45	core	0.042	47.406	0.147	0.007	0.392	9.116	0.23	10.995	0.028	0.352	30.364	0.211	0.072	99.362	8.233977	22.95	100.19	49.622	42.363	8.015	100
Charlie-1-50	core	0.01	49.869	0.192	0.03	0.171	4.318	0.31	10.568	0.044	0.294	33.372	0.104	0.095	99.377	7.966862	26.2	100.18	53.865	38.741	7.394	100
Charlie-1-51	core	0.009	49.68	0.237	0.038	0.239	4.333	0.23	10.791	0.003	0.386	33.385	0.233	0.058	99.622	8.840523	25.43	100.51	52.248	39.547	8.205	100
Charlie-1-52	core	0.02	49.612	0.233	0.056	0.136	4.407	0.28	10.559	0	0.295	33.323	0.106	0.082	99.109	8.050613	26.08	99.916	53.697	38.797	7.506	100
Charlie-1-54	core	0.004	49.461	0.284	0.021	0.13	4.307	0.59	10.713	0.07	0.401	33.474	0.123	0.079	99.657	8.349472	25.96	100.49	53.170	39.119	7.711	100
Charlie-1-55	core	0.026	50.115	0.241	0.046	0.224	4.399	0.18	10.678	0.033	0.231	33.29	0.192	0.061	99.716	7.958415	26.13	100.51	53.567	39.054	7.379	100
Charlie-1-56	core	0.01	49.857	0.264	0.05	0.096	4.384	0.3	10.582	0.02	0.381	33.056	0.092	0	99.092	7.5297	26.28	99.846	54.110	38.873	7.017	100
Charlie-1-57	core	0.008	49.74	0.228	0.058	0.194	4.326	0.34	10.711	0.017	0.361	33.106	0.139	0.011	99.239	7.961807	25.94	100.04	53.310	39.280	7.410	100
Charlie-1-58	core	0	49.631	0.21	0.008	0.137	4.371	0.51	10.692	0	0.377	32.978	0.056	0.042	99.012	7.596262	26.14	99.773	53.769	39.195	7.036	100
Charlie-1-60	core	0	50.523	0.204	0.036	0.159	4.224	0.42	11.179	0.04	0.32	32.202	0.138	0.101	99.546	7.090204	25.82	100.26	52.735	40.720	6.544	100
Charlie-1-62	core	0.023	50.529	0.243	0	0.18	4.488	0.22	10.682	0.049	0.259	33.119	0.113	0.021	99.926	7.257763	26.59	100.65	54.385	38.936	6.679	100
Charlie-1-63	core	0	50.238	0.216	0	0.094	4.493	0.11	10.739	0.02	0.396	32.988	0.15	0	99.444	7.903893	25.88	100.24	53.277	39.401	7.322	100
Charlie-1-65	core	0.005	49.772	0.213	0.046	0.205	4.438	0.36	10.685	0	0.257	33.675	0.146	0.04	99.842	8.400926	26.12	100.68	53.322	38.921	7.757	100
Charlie-1-66	core	0.025	49.805	0.246	0.021	0.137	4.473	0.18	10.562	0.024	0.337	32.925	0.157	0	98.892	7.655481	26.04	99.659	53.883	38.971	7.146	100
Charlie-1-69	core	0.012	50.031	0.246	0	0.155	4.206	0.24	10.745	0.024	0.306	33.345	0.256	0	99.566	8.25682	25.92	100.39	53.130	39.255	7.616	100
Charlie-1-70	core	0.001	50.274	0.253	0.025	0.178	4.392	0.27	10.7	0	0.336	33.251	0.139	0.032	99.851	7.661788	26.36	100.62	53.907	39.022	7.071	100
Charlie-1-71	core	0.028	49.842	0.159	0.103	0.257	4.522	0.15	10.674	0.056	0.459	33.275	0.103	0.061	99.689	8.508266	25.62	100.54	52.756	39.272	7.972	100
Charlie-1-73	core	0.02	50.054	0.212	0.039	0.201	4.492	0.11	10.719	0.044	0.333	33.286	0.141	0.011	99.662	8.293826	25.82	100.49	53.035	39.268	7.697	100

Charlie-1 Pyroxene

Sample	SiO_2	TiO_2	Al_2O_3	Cr_2O_3	MgO	CaO	MnO	FeO	NiO	Na_2O	K_2O	Total
Charlie-1-1	55.351	0.112	3.382	2.975	14.988	19.6	0.103	1.507	0	2.817	0.004	100.84
Charlie-1-2	54.893	0.038	3.452	3.215	14.423	18.78	0.081	2.179	0.01	3.188	0.023	100.28
Charlie-1-4	54.84	0.184	3.299	3.108	14.73	19.03	0.114	1.973	0.05	3.093	0	100.42
Charlie-1-5	55.184	0.131	1.86	2.896	15.046	19.69	0.067	2.106	0.009	2.672	0	99.658
Charlie-1-6	55.101	0.188	0.739	1.744	16.899	21.79	0.074	2.338	0.053	1.287	0.005	100.22
Charlie-1-7	54.627	0.207	2.95	2.926	14.247	19.12	0.078	2.558	0.031	3.003	0	99.742
Charlie-1-8	54.788	0.235	1.861	2.149	16.648	19.3	0.128	2.866	0.052	2.051	0.017	100.09
Charlie-1-9	54.747	0.212	2.634	2.917	14.477	20.31	0.06	2.492	0.055	2.698	0	100.61
Charlie-1-10	54.84	0.227	3.349	3.084	14.353	18.8	0.044	2.182	0.032	3.25	0.023	100.18
Charlie-1-11	54.881	0.239	1.907	2.153	16.449	19.27	0.114	2.88	0.024	2.1	0.037	100.06
Charlie-1-12	54.924	0.132	0.836	2.181	16.202	22	0.06	2.206	0.05	1.526	0.004	100.12
Charlie-1-13	54.856	0.114	1.342	2.872	15.739	20.73	0.034	1.954	0.041	2.138	0	99.818
Charlie-1-14	55.146	0.124	0.742	1.777	16.694	22.34	0.077	2.294	0.058	1.294	0	100.54
Charlie-1-15	55.329	0.14	1.784	3.238	15.441	20.12	0.04	1.983	0.035	2.518	0.014	100.64
Charlie-1-16	55.183	0.116	2.07	2.329	16.181	19.97	0.1	1.869	0.046	2.072	0	99.94
Charlie-1-3	55.589	0.043	2.229	0.148	29.678	0.222	0.201	12.59	0.114	0.004	0	100.81

Charlie-1 Olivine

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Charlie-1-1	41.493	0.015	0.049	0	51.271	0.011	0.133	7.646	0.336	0	0.002	100.88
Charlie-1-2	41.535	0.016	0	0	50.242	0	0.147	8.765	0.346	0.003	0.015	101.04
Charlie-1-3	41.524	0.024	0	0.02	51.095	0	0.084	7.42	0.415	0.003	0	100.54
Charlie-1-4	41.369	0.015	0	0.032	50.846	0	0.057	7.989	0.313	0.005	0	100.57
Charlie-1-6	41.44	0	0.047	0.003	50.735	0	0.123	8.323	0.361	0.002	0	100.98
Charlie-1-7	41.686	0	0	0.036	51.365	0	0.091	7.344	0.368	0	0.005	100.89
Charlie-1-8	41.47	0.015	0.017	0.052	50.895	0	0.077	8.245	0.403	0.001	0	101.14
Charlie-1-9	40.958	0.045	0	0.025	49.943	0	0.123	8.76	0.299	0.008	0	100.13
Charlie-1-10	41.212	0.013	0	0.024	49.655	0	0.11	9.519	0.399	0.003	0	100.9
Charlie-1-11	41.361	0.033	0	0.039	49.574	0.044	0.147	9.448	0.284	0.004	0.005	100.89
Charlie-1-12	41.3	0.017	0	0.013	49.777	0	0.078	9.431	0.346	0	0.051	100.93
Charlie-1-13	41.809	0.012	0	0	51.327	0	0.095	7.428	0.377	0	0	101.04
Charlie-1-14	41.136	0.009	0	0.058	49.579	0.096	0.103	8.999	0.396	0.03	0	100.4

Delta-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Delta-1-1	dk purple	40.945	0.042	16.83	9.054	17.99	7.182	0.379	7.51	0.018	0.032	0	99.982
Delta-1-2	dk purple	41.807	0.039	20.617	4.714	20.534	4.008	0.515	8.046	0.024	0.032	0.025	100.36
Delta-1-3	dk purple	41.696	0.048	20.639	4.484	19.836	5.112	0.487	7.972	0	0.034	0	100.31
Delta-1-4	dk purple	41.333	0.266	17.669	7.857	19.577	5.454	0.413	7.944	0.047	0.051	0	100.61
Delta-1-5	dk purple	41.812	0.36	20.737	3.459	20.028	4.883	0.431	8.701	0	0.056	0	100.47
Delta-1-6	dk purple	41.441	0.018	18.183	7.542	18.858	6.46	0.386	7.423	0.034	0.007	0.031	100.38
Delta-1-7	dk purple	41.923	0.028	20.868	4.391	20.527	4.219	0.563	8.15	0.031	0.03	0	100.73
Delta-1-8	dk purple	42.142	0.018	21.079	3.602	20.846	3.903	0.506	8.2	0.036	0.064	0.013	100.41
Delta-1-9	dk purple	40.776	0.214	17.33	8.12	19.022	5.735	0.382	7.773	0.025	0.037	0.016	99.43
Delta-1-10	dk purple	41.254	0.27	18.908	6.356	19.378	5.391	0.406	8.033	0	0.058	0	100.05
Delta-1-11	dk purple	41.694	0.005	20.737	4.42	19.22	5.564	0.528	8.156	0.009	0.015	0	100.35
Delta-1-12	dk purple	41.164	0.181	17.489	8.237	19.085	5.817	0.388	7.793	0.037	0.03	0.009	100.23
Delta-1-13	dk purple	41.685	0.12	18.75	6.76	19.338	5.731	0.403	7.893	0.05	0.023	0.025	100.78
Delta-1-14	dk purple	41.453	0.34	19.813	4.803	20.588	4.89	0.35	7.393	0	0.045	0	99.675
Delta-1-15	dk purple	40.928	0.076	16.717	9.165	18.512	6.421	0.381	7.761	0.022	0.028	0	100.01
Delta-1-16	dk purple	41.498	0.192	18.97	6.016	19.644	5.6	0.412	7.518	0.043	0.042	0.006	99.941
Delta-1-17	dk purple	41.208	0.02	20.627	4.247	18.556	5.323	0.732	9.625	0.007	0.035	0	100.38
Delta-1-18	dk purple	41.564	0.28	20.495	3.84	20.27	4.501	0.373	8.378	0	0.049	0	99.75
Delta-1-19	dk purple	41.35	0.258	19.412	5.491	20.066	5.125	0.385	8.055	0.007	0.048	0	100.2
Delta-1-20	dk purple	41.519	0.02	20.115	4.919	20.036	4.723	0.559	7.95	0	0.042	0.003	99.886
Delta-1-21	dk purple	41.301	0.116	18.899	6.155	19.176	5.775	0.446	8.001	0.01	0.028	0.025	99.932
Delta-1-22	dk purple	41.46	0.206	19.374	5.753	19.629	5.176	0.362	7.912	0.044	0.032	0.009	99.957
Delta-1-23	dk purple	40.594	0.185	16.118	9.509	18.036	6.962	0.41	7.667	0	0.043	0	99.524
Delta-1-24	dk purple	40.949	0.325	16.828	8.818	18.841	6.172	0.426	7.64	0.007	0.066	0.007	100.08
Delta-1-25	dk purple	41.133	0.046	18.138	7.399	18.779	6.48	0.448	7.441	0.025	0.005	0	99.894
Delta-1-26	purple	41.764	0	20.773	4.388	19.096	5.661	0.562	7.983	0.03	0.007	0	100.26
Delta-1-27	purple	41.645	0.001	21.02	3.846	20.363	4.197	0.528	8.092	0.013	0.029	0.016	99.75
Delta-1-28	purple	41.752	0.01	21.129	3.945	19.473	5.154	0.495	8.387	0	0.019	0	100.36
Delta-1-29	purple	41.047	0.171	17.324	8.31	18.971	5.857	0.296	7.557	0.018	0.042	0	99.593
Delta-1-30	purple	41.642	0.006	20.686	4.347	19.221	5.587	0.511	8.146	0	0.007	0.02	100.17
Delta-1-31	purple	41.976	0.042	20.582	4.761	19.963	4.875	0.463	7.772	0	0.024	0.013	100.47
Delta-1-32	purple	42.057	0.024	20.845	4.076	19.38	5.559	0.557	8.209	0	0.007	0.008	100.72
Delta-1-33	dk purple	41.316	0.094	18.797	6.25	19.283	5.844	0.479	8.095	0.01	0.019	0.024	100.21
Delta-1-34	dk purple	42.128	0.033	21.248	3.955	20.802	3.996	0.484	8.065	0.061	0.034	0	100.81
Delta-1-35	dk purple	41.834	0.211	20.513	4.374	20.218	4.78	0.409	7.861	0.075	0.035	0	100.31
Delta-1-36	dk purple	40.692	0.353	16.121	9.37	18.023	6.868	0.43	8.201	0	0.041	0	100.1
Delta-1-37	dk purple	41.789	0.025	20.992	3.901	20.583	4.165	0.509	7.865	0.046	0.03	0	99.905
Delta-1-38	dk purple	41.146	0.217	17.693	7.789	19.053	5.887	0.331	7.701	0.04	0.019	0	99.876
Delta-1-39	dk purple	41.948	0.147	20.236	4.544	20.342	4.742	0.348	7.783	0	0.029	0	100.12
Delta-1-40	dk purple	40.946	0.041	17.948	7.351	18.86	6.41	0.378	7.604	0.024	0.009	0.028	99.599
Delta-1-41	dk purple	41.736	0.219	20.505	4.272	20.851	4.365	0.419	7.723	0.003	0.053	0	100.15
Delta-1-42	dk purple	41.508	0.294	19.767	4.567	19.978	4.814	0.318	8.645	0	0.057	0	99.948
Delta-1-43	dk purple	40.926	0.178	17.413	8.086	19.124	5.896	0.401	7.947	0.055	0.034	0.001	100.06
Delta-1-44	dk purple	41.705	0.258	20.911	3.978	20.506	4.684	0.399	7.758	0.025	0.051	0.003	100.28
Delta-1-45	dk purple	41.551	0.043	20.593	4.385	20.098	4.514	0.513	7.933	0.024	0.02	0	99.674
Delta-1-46	dk purple	41.578	0.246	20.236	4.469	20.349	4.776	0.372	7.944	0.012	0.046	0	100.03
Delta-1-47	dk purple	40.97	0.367	16.77	9.001	18.907	6.168	0.393	7.648	0.059	0.054	0.001	100.34
Delta-1-48	dk purple	41.867	0.146	20.562	4.39	20.475	4.698	0.371	7.799	0.056	0.028	0	100.39
Delta-1-49	dk purple	40.975	0.016	16.82	8.848	18.16	7.06	0.389	7.789	0.016	0.009	0	100.08
Delta-1-50	dk purple	40.806	0.051	16.81	9.301	17.879	7.216	0.419	7.536	0	0.028	0	100.05
Delta-1-51	purple	41.984	0.019	21.644	3.375	19.677	4.877	0.587	8.085	0.009	0.022	0.034	100.31
Delta-1-52	purple	41.57	0.028	21.341	3.684	19.356	5.235	0.598	8.508	0.07	0.006	0	100.4
Delta-1-53	purple	41.927	0.001	21.672	3.192	19.973	4.921	0.571	8.295	0.036	0.021	0.012	100.62
Delta-1-54	purple	42.034	0	21.437	3.586	20.795	4.079	0.529	7.548	0	0.06	0	100.07
Delta-1-55	purple	41.78	0.04	21.819	3.246	19.965	4.886	0.546	8.302	0	0.019	0	100.6
Delta-1-56	purple	41.648	0.022	21.185	3.677	19.064	5.311	0.581	8.934	0	0.012	0	100.43
Delta-1-57	purple	41.971	0	21.727	2.991	19.827	4.746	0.661	8.417	0.071	0.015	0	100.43
Delta-1-58	purple	41.779	0.004	20.969	4.003	19.395	5.357	0.554	8.423	0.004	0.005	0	100.49
Delta-1-59	purple	41.843	0.028	21.282	3.605	19.762	5.053	0.565	8.297	0	0.016	0	100.45

Delta-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Delta-1-60	purple	41.632	0.053	21.292	3.762	18.943	5.38	0.473	9.116	0.047	0.026	0.005	100.73
Delta-1-61	purple	41.598	0.009	20.819	4.281	19.386	5.436	0.573	8.338	0.039	0.016	0	100.5
Delta-1-62	purple	41.828	0.006	21.541	3.356	19.798	4.801	0.587	8.074	0	0.03	0	100.02
Delta-1-63	purple	41.855	0.01	21.639	3.14	19.814	4.875	0.585	8.069	0.009	0.024	0	100.02
Delta-1-64	purple	41.689	0.04	20.968	4.055	20.439	4.246	0.47	8.08	0	0.031	0.001	100.02
Delta-1-65	purple	41.623	0.03	20.831	4.071	19.393	5.298	0.525	8.215	0.024	0.008	0	100.02
Delta-1-66	purple	41.849	0	21.621	3.152	19.992	4.737	0.497	8.058	0	0.023	0	99.929
Delta-1-67	purple	41.721	0.003	21.727	3.278	19.768	4.802	0.533	8.16	0.006	0.019	0	100.02
Delta-1-68	purple	41.898	0.042	21.26	3.856	20.483	4.181	0.415	7.855	0.018	0.045	0	100.05
Delta-1-70	purple	42.026	0	21.963	2.932	19.977	4.696	0.563	8.594	0	0.015	0	100.77
Delta-1-71	purple	41.599	0.042	21.339	3.718	19.539	5.512	0.461	7.953	0	0.012	0.002	100.18
Delta-1-72	purple	41.637	0.062	20.754	4.325	20.291	4.501	0.488	7.98	0.001	0.036	0	100.08
Delta-1-73	purple	41.467	0.032	20.913	4.046	19.371	5.309	0.523	8.07	0.021	0.016	0	99.768
Delta-1-74	purple	41.761	0.006	22.344	2.562	20.315	4.381	0.623	8.37	0	0.01	0	100.37
Delta-1-75	purple	41.644	0.009	21.255	3.848	19.392	5.271	0.554	8.421	0.016	0.011	0	100.42
Delta-1-76	purple	42.069	0.044	20.914	4.477	20.416	4.432	0.491	8.056	0	0.03	0	100.93
Delta-1-77	purple	41.755	0.211	20.381	4.473	20.712	4.433	0.425	7.601	0	0.05	0.011	100.05
Delta-1-78	purple	41.791	0	21.722	3.231	19.751	4.855	0.606	8.363	0	0.025	0.019	100.36
Delta-1-79	purple	41.796	0.004	21.813	2.972	19.927	4.823	0.678	8.243	0.016	0.021	0.064	100.36
Delta-1-80	purple	41.848	0.018	21.733	3.177	19.95	4.819	0.597	8.055	0	0.031	0	100.23
Delta-1-81	purple	41.677	0.045	20.564	4.571	19.968	4.862	0.466	7.929	0	0.018	0.057	100.16
Delta-1-82	purple	41.934	0.014	21.728	3.263	19.655	4.893	0.604	8.139	0.034	0.024	0.016	100.3
Delta-1-83	purple	41.688	0.028	20.453	4.685	20.579	4.167	0.562	8.024	0	0.036	0	100.22
Delta-1-84	purple	41.897	0.01	21.328	3.527	19.707	5.023	0.631	8.162	0.013	0.007	0	100.31
Delta-1-85	purple	41.676	0.004	21.537	3.406	19.748	4.856	0.554	8.217	0.013	0.032	0.029	100.07
Delta-1-86	purple	41.613	0.01	21.754	3.032	20.1	4.831	0.601	8.171	0.015	0.022	0	100.15
Delta-1-87	purple	41.942	0.009	21.576	3.228	19.671	4.911	0.623	8.122	0.034	0.022	0.004	100.14
Delta-1-88	purple	41.203	0.373	18.238	6.585	19.55	5.318	0.386	8.119	0.021	0.056	0	99.849
Delta-1-89	purple	41.794	0	21.292	3.78	19.316	5.517	0.438	8.244	0	0.024	0.017	100.42
Delta-1-90	purple	41.667	0.239	19.939	4.562	20.187	5.02	0.362	7.806	0.018	0.052	0	99.852
Delta-1-91	purple	41.867	0.238	20.466	4.563	20.627	4.504	0.434	7.603	0.022	0.059	0	100.38
Delta-1-92	purple	41.653	0.032	20.739	4.779	20.044	4.867	0.527	8.023	0	0.031	0	100.7
Delta-1-93	purple	42.104	0.001	21.771	3.044	19.729	4.871	0.531	8.284	0	0.025	0	100.36
Delta-1-94	purple	41.637	0.032	21.251	3.656	18.892	5.324	0.569	9.139	0.033	0.012	0.037	100.58
Delta-1-95	purple	41.948	0.04	21.093	4.04	20.745	3.908	0.511	8.307	0.015	0.044	0	100.65
Delta-1-96	purple	41.515	0.012	20.959	4.121	19.446	5.237	0.472	8.276	0	0.005	0.027	100.07
Delta-1-97	purple	41.557	0.026	21.057	3.843	19.324	5.655	0.435	7.949	0	0.016	0.029	99.891
Delta-1-98	purple	41.741	0.033	21.693	3.174	19.906	4.915	0.631	8.309	0.028	0.022	0	100.45
Delta-1-99	purple	41.841	0.038	21.322	3.814	19.446	5.531	0.485	7.986	0.03	0.017	0	100.51
Delta-1-100	purple	41.908	0.014	21.057	3.995	20.389	4.567	0.55	8.018	0.003	0.033	0	100.53
Delta-1-101	purple	41.815	0	21.255	3.612	19.866	4.91	0.458	8.028	0	0.013	0	99.957
Delta-1-102	purple	41.678	0.053	20.809	4.099	20.353	4.525	0.544	8.119	0	0.02	0	100.2
Delta-1-103	purple	41.755	0.035	20.74	4.485	20.29	4.843	0.529	8.003	0.043	0.02	0	100.74
Delta-1-104	purple	42.011	0.009	21.947	2.994	19.982	4.694	0.569	8.154	0	0.029	0.014	100.4
Delta-1-105	purple	41.807	0.165	20.319	4.384	20.486	4.713	0.391	7.721	0.047	0.038	0	100.07
Delta-1-106	purple	41.985	0.014	21.741	3.176	19.77	4.869	0.555	8.112	0	0.005	0	100.23
Delta-1-107	purple	41.94	0.041	21.205	3.727	20.83	3.597	0.558	7.642	0.024	0.027	0.022	99.613
Delta-1-108	purple	41.95	0.205	20.381	4.449	20.744	4.316	0.42	7.582	0	0.057	0	100.1
Delta-1-109	purple	41.696	0.21	20.63	4.413	20.865	4.382	0.376	7.465	0.019	0.053	0.001	100.11
Delta-1-110	purple	41.864	0.046	23.17	0.655	18.92	4.639	0.28	10.53	0.067	0	0	100.17
Delta-1-111	purple	41.971	0.02	20.786	4.501	20.387	4.12	0.473	8.114	0.027	0.044	0	100.44
Delta-1-112	purple	41.922	0.038	21.002	4.196	20.526	4.294	0.475	8.051	0	0.025	0	100.53
Delta-1-113	purple	41.825	0.202	20.46	4.272	20.764	4.3	0.404	7.555	0.005	0.058	0.007	99.852
Delta-1-114	purple	41.946	0.035	21.167	3.902	20.445	4.483	0.453	8.193	0	0.032	0	100.66
Delta-1-115	purple	41.726	0.164	20.87	3.979	20.188	4.866	0.393	8.158	0	0.04	0.041	100.43
Delta-1-116	purple	41.748	0.026	21.843	2.993	19.756	4.789	0.569	8.094	0	0.022	0.034	99.874
Delta-1-117	purple	41.861	0.156	20.09	4.589	20.399	4.749	0.374	8.007	0	0.027	0	100.25
Delta-1-118	purple	41.919	0.022	21.949	2.77	19.839	4.925	0.565	8.338	0	0.012	0	100.34
Delta-1-119	purple	41.84	0.034	20.906	4.166	20.278	4.278	0.51	7.991	0.007	0.043	0	100.05

Delta-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Delta-1-120	purple	41.839	0	21.645	2.968	20.002	4.514	0.572	8.64	0	0.022	0	100.2
Delta-1-121	purple	41.73	0.05	20.845	4.13	20.553	4.069	0.547	8.222	0	0.048	0	100.19
Delta-1-122	purple	41.974	0.018	21.243	3.86	20.801	3.937	0.535	7.989	0	0.035	0	100.39
Delta-1-123	purple	41.884	0.004	21.289	3.779	19.458	5.35	0.532	7.904	0	0.014	0.008	100.22
Delta-1-124	purple	41.702	0.019	20.703	4.393	20.263	4.017	0.537	7.989	0	0.046	0	99.669
Delta-1-125	purple	41.619	0.028	21.075	4.053	20.554	4.142	0.511	7.903	0	0.035	0	99.92
Delta-1-126	purple	41.607	0.001	20.719	4.257	20.406	4.033	0.538	8.002	0.006	0.022	0	99.591
Delta-1-127	purple	41.941	0.025	21.224	3.875	20.495	4.206	0.463	8.056	0	0.034	0.022	100.34
Delta-1-128	purple	41.578	0.034	21.29	3.828	20.624	4.046	0.556	7.973	0	0.043	0	99.972
Delta-1-129	purple	41.897	0.041	20.679	4.516	20.295	4.083	0.563	7.883	0.027	0.032	0	100.02
Delta-1-130	purple	41.445	0	20.929	4.046	19.466	5.213	0.584	8.264	0.016	0.015	0	99.978
Delta-1-131	purple	42.031	0.048	21.353	3.434	20.896	3.839	0.547	7.961	0.003	0.05	0.015	100.18
Delta-1-132	purple	41.841	0.033	21.357	3.544	20.629	3.913	0.542	7.906	0	0.037	0	99.802
Delta-1-133	purple	41.663	0.023	20.811	4.515	20.285	4.459	0.479	8.05	0.004	0.03	0	100.32
Delta-1-134	purple	41.807	0.044	21.243	3.609	19.584	5.082	0.572	8.425	0	0.023	0	100.39
Delta-1-135	purple	41.887	0.028	21.19	3.771	20.287	4.545	0.463	7.735	0.019	0.036	0	99.961
Delta-1-136	purple	41.792	0.001	21.695	2.843	19.683	4.851	0.671	8.582	0.018	0.015	0	100.15
Delta-1-137	purple	41.6	0.039	20.658	4.555	20.075	4.806	0.459	8.111	0.022	0.032	0	100.36
Delta-1-138	purple	41.912	0.05	21.235	3.636	20.847	3.831	0.542	7.991	0.003	0.03	0.008	100.09
Delta-1-139	purple	41.849	0.326	20.029	4.581	20.659	4.817	0.386	7.421	0.018	0.044	0.017	100.15
Delta-1-140	purple	41.835	0.045	21.359	3.573	20.78	3.788	0.556	7.99	0.003	0.037	0	99.966
Delta-1-141	purple	41.926	0.011	21.982	2.71	20.22	4.223	0.588	8.439	0	0.007	0.019	100.13
Delta-1-142	purple	41.589	0	21.122	3.809	18.649	5.798	0.59	8.108	0	0.012	0.043	99.72
Delta-1-143	purple	41.787	0.291	20.052	4.631	20.128	4.94	0.427	7.899	0.025	0.062	0	100.24
Delta-1-144	purple	41.618	0.453	20.726	3.327	19.494	5.149	0.449	9.078	0.021	0.07	0	100.39
Delta-1-145	purple	41.703	0.032	20.648	4.399	20.028	4.574	0.542	7.963	0	0.031	0	99.92
Delta-1-146	red	41.917	0.305	20.359	4.306	19.975	5.111	0.322	8.097	0	0.04	0	100.43
Delta-1-147	red	41.995	0.26	21.23	3.334	20.622	4.402	0.415	8.204	0.021	0.042	0	100.53
Delta-1-148	red	41.776	0.141	20.686	4.004	20.112	4.7	0.405	7.82	0.012	0.043	0	99.699
Delta-1-149	red	41.756	0.196	20.294	4.384	20.487	4.704	0.358	7.88	0	0.032	0.008	100.1
Delta-1-150	red	41.916	0.334	20.551	3.905	20.205	4.915	0.37	8.316	0	0.042	0.006	100.56
Delta-1-151	red	41.458	0.183	19.301	5.897	19.792	5.201	0.429	7.927	0	0.057	0.003	100.25
Delta-1-152	red	41.743	0.317	20.413	4.225	20.257	5.181	0.375	8.206	0.013	0.039	0	100.77
Delta-1-153	red	42.151	0.322	21.143	3.276	20.552	4.384	0.354	7.952	0	0.041	0	100.[illegible]8
Delta-1-154	red	41.886	0.613	20.875	2.402	20.281	4.413	0.356	9.38	0	0.08	0	100.29
Delta-1-155	red	42.014	0.296	21.535	2.837	20.617	4.444	0.38	7.962	0.007	0.055	0.014	100.16
Delta-1-156	red	41.439	0.03	22.913	1.105	18.123	4.88	0.436	11.41	0.004	0.005	0	100.35
Delta-1-157	red	42.009	0.184	20.738	4.103	20.128	4.872	0.409	7.988	0	0.044	0	100.48
Delta-1-158	red	41.834	0.615	21.121	2.414	20.488	4.394	0.346	9.42	0.058	0.079	0.05	100.82
Delta-1-159	red	41.979	0.162	21.987	2.189	20.788	3.894	0.448	8.269	0	0.048	0	99.764
Delta-1-160	red	41.508	0.225	20.368	4.445	20.056	4.936	0.382	8.106	0.028	0.047	0.02	100.12
Delta-1-161	red	41.759	0.169	20.557	4.369	20.454	4.637	0.423	7.877	0	0.037	0	100.28
Delta-1-162	red	41.933	0.282	21.004	3.154	20.497	4.399	0.355	8.208	0	0.051	0	99.883
Delta-1-163	red	41.923	0.287	21.501	2.795	20.89	4.012	0.367	8.305	0.005	0.066	0	100.15
Delta-1-164	red	41.614	0.204	20.123	4.613	20.039	4.937	0.365	7.912	0	0.03	0	99.837
Delta-1-165	red	42.055	0.312	21.397	2.994	20.408	4.61	0.389	8.431	0.07	0.04	0	100.71
Delta-1-166	red	41.386	0.183	19.151	5.892	19.834	5.177	0.452	8.058	0	0.042	0	100.18
Delta-1-167	red	41.477	0.264	20.259	4.181	20.015	5.107	0.416	8.069	0	0.036	0.019	99.843
Delta-1-168	red	41.796	0.151	20.751	4.087	20.311	4.766	0.426	7.899	0	0.045	0	100.23
Delta-1-169	red	42.048	0.3	21.313	3.089	20.645	4.475	0.376	8.274	0.016	0.034	0.021	100.59
Delta-1-170	red	41.634	0.081	19.592	5.625	19.685	5.39	0.36	7.825	0.024	0.022	0.017	100.26
Delta-1-171	red	42.023	0.39	21.95	1.935	20.752	4.352	0.349	8.188	0	0.054	0.032	100.03
Delta-1-172	red	41.507	0.091	19.499	5.394	19.797	5.3	0.324	7.902	0.022	0.018	0.023	99.877
Delta-1-173	red	39.03	0.137	21.852	0.085	7.3	8.692	0.521	23.21	0.028	0.032	0	100.89
Delta-1-174	red	41.735	0.279	21.405	3.07	20.573	4.494	0.388	8.222	0.015	0.06	0	100.24
Delta-1-175	red	41.637	0.233	20.374	4.345	19.999	5.088	0.356	7.76	0.015	0.055	0	99.862
Delta-1-176	red	41.794	0.3	21.267	3.007	20.209	4.597	0.355	8.259	0	0.033	0.032	99.853
Delta-1-177	red	41.783	0.138	20.737	4.111	20.25	4.782	0.394	7.978	0	0.046	0.004	100.22
Delta-1-178	red	41.661	0.247	20.489	4.41	20.78	4.433	0.367	7.537	0	0.051	0	99.975

Delta-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Delta-1-179	red	41.369	0.607	20.573	2.361	20.119	4.333	0.342	9.189	0.036	0.071	0.008	99.008
Delta-1-180	red	41.901	0.292	21.222	2.967	20.569	4.359	0.405	8.313	0.013	0.049	0	100.09
Delta-1-181	red	42.369	0.29	21.534	3.077	20.61	4.435	0.389	8.33	0.037	0.034	0.008	101.11
Delta-1-182	red	41.617	0.159	19.826	5.069	20.111	4.906	0.423	8	0	0.033	0	100.14
Delta-1-183	red	41.851	0.151	21.121	3.271	20.415	4.738	0.421	8.111	0.011	0.041	0	100.13
Delta-1-184	red	41.793	0.296	20.269	4.198	19.809	5.007	0.37	8.313	0.037	0.039	0	100.13
Delta-1-185	red	42.035	0.225	21.086	3.353	20.494	4.408	0.432	8.102	0	0.053	0	100.19
Delta-1-186	red	42.084	0.312	21.654	2.74	20.759	4.357	0.39	8.011	0	0.054	0.007	100.37
Delta-1-187	red	41.852	0.242	20.746	3.74	20.697	4.596	0.391	7.915	0	0.052	0	100.23
Delta-1-188	red	41.738	0.308	20.19	4.082	20.027	5.065	0.361	8.215	0	0.041	0	100.03
Delta-1-189	red	41.707	0.181	20.705	3.899	20.171	4.846	0.434	8.127	0.002	0.042	0	100.11
Delta-1-190	red	41.653	0.328	20.22	4.328	20.249	4.844	0.397	8.244	0	0.062	0.008	100.33
Delta-1-191	red	41.96	0.299	21.414	3.034	20.558	4.48	0.36	8.38	0.015	0.041	0.041	100.58
Delta-1-192	red	42.125	0.228	21.144	3.338	20.643	4.426	0.359	8.179	0.024	0.029	0	100.5
Delta-1-193	red	41.524	0.307	20.245	4.214	20.109	5.018	0.402	8.257	0	0.041	0.013	100.13
Delta-1-194	red	41.528	0.163	20.779	4.036	20.096	4.857	0.379	7.927	0.01	0.047	0.024	99.846
Delta-1-195	red	41.492	0.276	19.474	5.435	20.107	5.04	0.399	7.961	0.012	0.035	0	100.23
Delta-1-196	red	41.971	0.547	21.124	2.287	20.48	4.272	0.375	9.124	0.039	0.07	0	100.29
Delta-1-197	red	41.881	0.545	21.062	2.273	20.342	4.385	0.314	9.441	0	0.072	0.002	100.32
Delta-1-198	red	41.845	0.287	21.171	3.11	20.48	4.425	0.359	8.198	0.052	0.046	0.017	99.99
Delta-1-199	red	42.013	0.285	21.372	3.037	20.478	4.495	0.36	8.174	0	0.049	0	100.26
Delta-1-200	red	42.193	0.244	21.025	3.734	20.589	4.596	0.343	7.981	0	0.047	0.008	100.76
Delta-1-201	red	41.926	0.225	20.51	4.467	20.931	4.329	0.358	7.57	0	0.044	0	100.36
Delta-1-202	red	41.759	0.155	20.788	4.063	20.15	4.863	0.409	8.108	0	0.03	0.029	100.35
Delta-1-203	red	42.028	0.29	21.226	3.002	20.657	4.456	0.402	8.248	0	0.036	0	100.35
Delta-1-204	red	41.898	0.287	20.117	4.323	20.302	4.857	0.412	8.251	0.009	0.064	0	100.52
Delta-1-205	red	41.831	0.288	20.181	4.177	19.874	5.125	0.361	8.05	0.001	0.036	0	99.924
Delta-1-206	red	42.019	0.321	21.38	3.067	20.446	4.584	0.362	8.22	0.01	0.05	0	100.46
Delta-1-207	red	42.118	0.268	21.281	3.065	20.683	4.503	0.411	8.273	0.013	0.044	0.007	100.67
Delta-1-208	red	41.856	0.28	20.473	4.19	19.992	5.058	0.367	8.125	0.012	0.03	0	100.38
Delta-1-209	red	41.896	0.25	21.475	3.346	20.466	4.644	0.369	8.077	0	0.052	0.028	100.6
Delta-1-210	red	41.923	0.004	21.242	3.507	19.785	5.097	0.536	8.33	0	0.006	0.004	100.43
Delta-1-211	red	41.843	0.193	20.411	4.555	20.725	4.394	0.381	7.618	0	0.057	0.004	100.18
Delta-1-212	red	41.854	0.181	20.38	4.46	20.863	4.425	0.454	7.562	0.088	0.064	0	100.33
Delta-1-213	red	41.875	0.137	20.167	5.094	20.636	4.467	0.406	7.857	0.034	0.039	0	100.71
Delta-1-214	red	41.746	0.17	20.288	4.275	20.358	4.671	0.366	8.035	0	0.028	0.016	99.953
Delta-1-215	red	41.817	0.284	21.053	3.018	20.501	4.449	0.396	8.276	0.01	0.043	0.014	99.861
Delta-1-216	red	41.953	0.26	21.17	3.089	20.522	4.39	0.458	8.291	0	0.033	0.024	100.19
Delta-1-217	red	41.847	0.241	20.707	3.896	20.441	4.491	0.398	7.871	0.009	0.047	0	99.948
Delta-1-218	red	41.922	0.338	21.106	3.214	19.562	4.942	0.411	8.828	0.021	0.046	0	100.39
Delta-1-219	red	41.829	0.28	21.24	2.96	20.411	4.533	0.39	8.457	0	0.047	0	100.15
Delta-1-220	red	41.937	0.119	21.107	3.309	20.33	4.781	0.376	8.088	0.04	0.027	0.004	100.12
Delta-1-221	orange	39.029	0.123	21.821	0.086	7.267	8.704	0.556	23.08	0.006	0.005	0	100.67
Delta-1-222	orange	41.137	0.121	22.913	0.395	15.66	6.392	0.435	13.85	0	0	0.036	100.94

Sample	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Delta-1-1	0	0.047	0.006	0.073	8.999	57.023	0.23	10.572	0.045	0.404	21.929	0.019	0.196	99.543	5.421657	17.05	100.09
Delta-1-2	0.013	0.228	0.056	0	10.06	57.615	0.12	10.957	0.034	0.321	20.543	0.058	0.14	100.15	4.01274	16.93	100.55
Delta-1-3	0.009	1.395	0	0	3.5	59.255	0.14	7.9	0.073	0.51	26.569	0.134	0.173	99.658	6.036857	21.14	100.26
Delta-1-4	0.021	0.313	0	0	10.365	57.11	0.22	10.951	0.02	0.262	20.485	0.099	0.204	100.05	3.739135	17.12	100.42
Delta-1-5	0.028	0.299	0.026	0.003	10.335	56.68	0.28	10.874	0.003	0.388	20.484	0.169	0.045	99.614	3.671619	17.18	99.982
Delta-1-6	0.024	0.306	0	0	10.415	56.613	0.27	10.944	0.053	0.287	20.547	0.059	0.037	99.555	3.737682	17.18	99.929
Delta-1-7	0.011	0.084	0.019	0	10.621	57.467	0.33	11.141	0.014	0.307	19.612	0.074	0.008	99.688	3.037419	16.88	99.992
Delta-1-8	0.012	0.18	0	0	12.294	55.63	0.38	11.006	0.051	0.147	19.96	0.1	0.194	99.954	2.736404	17.5	100.23
Delta-1-9	0.016	0.26	0.003	0.044	10.204	56.56	0.13	10.911	0.009	0.256	20.61	0.044	0.141	99.188	4.182808	16.85	99.607
Delta-1-10	0.001	0.519	0	0.015	9.375	41.833	0.14	7.02	0.001	0.434	38.418	0.213	0.082	98.051	17.7269	22.47	99.827
Delta-1-11	0.028	0.275	0	0.004	10.423	56.654	0.29	11.64	0.046	0.271	20.081	0.087	0	99.799	4.259774	16.25	100.23
Delta-1-12	0.027	0.064	0	0	24.312	39.933	0.19	12.169	0.068	0.221	22.029	0.099	0.272	99.384	5.664839	16.93	99.952
Delta-1-13	0.041	0.232	0	0	10.322	56.675	0.26	11.018	0.07	0.186	20.497	0.072	0	99.373	3.839569	17.04	99.758
Delta-1-14	0.02	0.221	0	0.055	10.435	56.837	0.3	10.944	0.019	0.231	20.308	0.115	0.146	99.631	3.521144	17.14	99.984
Delta-1-15	0.028	1.062	0.014	0.037	5.885	59.368	0.03	10.483	0	0.349	21.984	0.116	0.232	99.588	5.185319	17.32	100.11
Delta-1-16	0.006	0.324	0.036	0.014	10.052	56.842	0.17	10.832	0	0.346	20.304	0.136	0.17	99.232	3.805465	16.88	99.613
Delta-1-17	0.018	0.324	0.015	0.082	9.965	56.729	0.25	10.832	0.047	0.383	20.629	0.08	0.172	99.526	3.951994	17.07	99.922
Delta-1-18	0.014	0.408	0.006	0	10.155	56.665	0.3	10.979	0.005	0.2	20.789	0.054	0.157	99.732	3.856773	17.32	100.12
Delta-1-19	0.029	0.272	0.061	0.034	10.014	57.409	0.19	10.902	0.058	0.119	20.259	0.14	0.104	99.591	3.465887	17.14	99.938
Delta-1-20	0.025	0.647	0	0	6.575	56.601	0.24	9.588	0.026	0.504	25.073	0.127	0.224	99.63	7.223448	18.57	100.35
Delta-1-21	0.017	0.332	0	0.03	7.787	57.839	0.21	9.846	0.035	0.299	22.765	0.07	0.185	99.415	5.046314	18.22	99.921
Delta-1-22	0.02	2.692	0	0	0.645	49.66	0.4	5.998	0.023	0.439	37.651	0.133	0.104	97.765	14.16019	24.91	99.184
Delta-1-23	0.005	0.684	0	0	7.168	51.854	0.2	8.035	0	0.564	30.45	0.125	0.092	99.177	10.51013	20.99	100.23
Delta-1-24	0.004	0.168	0.006	0	12.208	52.179	0.25	8.027	0.005	0.429	26.107	0.018	0.352	99.753	5.111907	21.51	100.27
Delta-1-25	0.029	0.577	0	0	9.67	56.371	0.28	10.359	0.071	0.34	22.194	0.072	0.082	100.05	4.364469	18.27	100.48
Delta-1-26	0.025	0.174	0.026	0	10.417	56.145	0.22	10.92	0.022	0.466	20.708	0.07	0.114	99.307	4.391319	16.76	99.747
Delta-1-27	0.008	0.181	0.006	0	8.628	53.625	0.54	9.093	0.01	0.463	26.252	0.115	0.248	99.169	7.402744	19.59	99.911
Delta-1-28	0.008	0.813	0	0	5.191	50.841	0.2	7.491	0.065	0.326	33.383	0.112	0.092	98.522	13.04872	21.64	99.829
Delta-1-29	0.029	0.212	0	0.083	10.161	56.802	0.28	10.73	0	0.541	20.15	0.107	0.058	99.153	3.441615	17.05	99.498
Delta-1-30	0.008	0.299	0.001	0	9.536	57.373	0.16	10.888	0.072	0.215	20.701	0.056	0.212	99.521	4.30869	16.82	99.953
Delta-1-31	0.09	2.782	0.041	0.013	6.308	53.228	0.24	10.248	0.022	0.355	25.303	0.116	0.048	98.794	6.318731	19.62	99.427
Delta-1-32	0.015	0.251	0.022	0.009	9.798	54.07	0.12	9.75	0.042	0.418	24.096	0.145	0.193	98.929	6.61269	18.15	99.592
Delta-1-33	0.012	0.328	0	0	10.09	56.867	0.24	10.763	0.037	0.374	20.516	0.107	0.22	99.554	3.813926	17.08	99.936
Delta-1-34	0.015	0.673	0.004	0.028	4.521	60.158	0.19	8.486	0.05	0.431	24.447	0.097	0.11	99.21	5.060075	19.89	99.717
Delta-1-35	0.022	0.296	0	0.038	10.176	57.199	0.15	10.886	0.018	0.259	20.421	0.115	0.215	99.795	3.820114	16.98	100.18
Delta-1-36	0.021	0.044	0	0	12.26	54.084	0.19	10.282	0.058	0.294	21.885	0.102	0.138	99.358	4.402128	17.92	99.799
Delta-1-37	0	0.25	0	0	9.938	57.302	0.13	10.896	0.039	0.378	20.511	0.075	0.154	99.673	4.202333	16.73	100.09
Delta-1-38	0.018	0.183	0	0.013	12.261	54.337	0.39	10.705	0.006	0.145	21.005	0.138	0.208	99.409	3.529189	17.83	99.763
Delta-1-39	0.089	2.666	0.032	0	5.843	54.955	0.27	10.299	0.016	0.28	24.517	0.215	0.061	99.243	5.577325	19.5	99.802
Delta-1-40	0	0.441	0	0	9.889	57.208	0.13	10.642	0.056	0.247	20.569	0.143	0.156	99.481	3.681546	17.26	99.85
Delta-1-41	0.011	0.33	0.047	0	9.89	57.088	0.2	10.962	0.042	0.292	20.556	0.068	0.08	99.566	3.972358	16.98	99.964
Delta-1-42	0.015	0.485	0	0	6.744	57.374	0.27	10.179	0.009	0.367	23.734	0.033	0.135	99.345	6.580718	17.81	100
Delta-1-43	0.004	0.288	0	0	10.347	57.068	0.09	10.988	0.002	0.474	20.604	0.094	0.196	100.16	4.36321	16.68	100.59
Delta-1-44	0.031	0.338	0	0	10.1	57.11	0.23	10.994	0.053	0.439	20.632	0.096	0.175	100.2	4.114726	16.93	100.61
Delta-1-45	0	0.252	0.003	0	10.163	56.706	0.16	10.783	0.003	0.201	20.355	0.073	0.098	98.797	3.755391	16.98	99.173
Delta-1-46	0.03	0.197	0	0.008	10.195	56.891	0.19	10.805	0.033	0.199	20.483	0.044	0.175	99.25	3.810597	17.05	99.632
Delta-1-47	0.027	0.207	0	0.046	10.378	56.387	0.18	10.775	0.046	0.293	20.794	0.15	0.337	99.62	4.327142	16.9	100.05
Delta-1-48	0.021	0.236	0.027	0.005	10.331	56.685	0.19	11.079	0.051	0.214	20.605	0.077	0.146	99.667	4.225404	16.8	100.09
Delta-1-49	0.014	0.243	0.027	0.018	10.343	56.616	0.23	11.076	0.086	0.371	20.333	0.082	0.112	99.551	4.080343	16.66	99.96
Delta-1-50	0.024	3.02	0	0.04	1.511	55.744	0.4	8.336	0.016	0.509	29.655	0.164	0.123	99.542	8.342596	22.15	100.38
Delta-1-51	0.009	0.107	0.001	0.033	11.148	56.291	0.31	10.808	0.056	0.198	20.528	0.119	0.091	99.699	3.468738	17.41	100.05
Delta-1-52	0.018	4.042	0.026	0	0.326	40.258	0.77	5.135	0.024	0.42	46.765	0.244	0.065	98.093	20.68278	28.15	100.17
Delta-1-53	0.018	3.287	0	0	1.494	54.174	0.43	7.973	0.045	0.608	30.66	0.145	0.102	98.936	8.868259	22.68	99.825
Delta-1-54	0.03	2.268	0	0.035	1.608	58.871	0.49	8.953	0.001	0.546	26.641	0.09	0.107	99.64	6.540078	20.76	100.3
Delta-1-55	0.01	2.758	0	0	1.388	57.543	0.51	8.642	0.065	0.407	27.72	0.176	0.144	99.363	6.921797	21.49	100.06
Delta-1-56	0.045	3.248	0	0.027	1.563	54.233	0.59	8.102	0.058	0.33	30.675	0.202	0.196	99.269	8.552417	22.98	100.13
Delta-1-57	0.015	2.48	0.023	0	2.465	49.792	0.38	7.712	0.073	0.647	34.907	0.226	0.029	98.749	13.91431	22.39	100.14
Delta-1-58	0.03	0.268	0	0	10.474	56.878	0.28	10.901	0.057	0.397	20.5	0.051	0.22	100.06	3.742348	17.13	100.43
Delta-1-59	0.014	0.661	0	0.018	2.049	59.14	0.31	7.159	0.058	0.416	29.215	0.05	0.209	99.299	8.301622	21.75	100.13
Delta-1-60	0.003	2.759	0.039	0.018	1.355	57.557	0.46	8.671	0.088	0.544	27.798	0.232	0.141	99.665	7.236431	21.29	100.39
Delta-1-61	0.015	0.253	0	0	10.381	56.766	0.27	11.093	0.066	0.182	20.741	0.098	0.197	100.06	4.194884	16.97	100.48
Delta-1-62	0	0.33	0.04	0.029	9.961	56.479	0.14	10.871	0.014	0.365	20.461	0.117	0.077	98.884	4.146922	16.73	99.299
Delta-1-63	0.02	0.285	0	0	10.028	57.01	0.26	10.821	0.043	0.187	20.157	0.14	0.027	98.978	3.371609	17.12	99.316
Delta-1-64	0.032	1.459	0.011	0	2.861	59.722	0.18	7.953	0.037	0.574	26.606	0.078	0.207	99.72	6.077199	21.14	100.33
Delta-1-65	0.006	0.103	0.013	0.031	10.035	57.928	0.19	10.83	0	0.273	19.804	0.049	0.029	99.291	3.123379	16.99	99.604
Delta-1-66	0.036	0.333	0.018	0.01	10.343	56.588	0.14	10.976	0.055	0.304	20.399	0.009	0	99.211	3.846866	16.94	99.596
Delta-1-68	0.026	2.153	0	0.008	1.238	59.071	0.47	8.706	0.012	0.476	26.677	0.159	0.139	99.135	6.615899	20.72	99.798
Delta-1-69	0	0.253	0	0.011	9.368	57.873	0.35	10.724	0.013	0.416	20.544	0.063	0.252	99.867	3.692833	17.22	100.24
Delta-1-70	0.014	0.243	0	0	9.487	53.6	0.28	9.383	0.092	0.436	25.215	0.131	0.14	99.021	7.023617	18.9	99.725
Delta-1-72	0.013	2.954	0.004	0.001	2.093	56.684	0.28	8.975	0.097	0.53	27.429	0.188	0.231	99.479	7.464863	20.71	100.23
Delta-1-73	0.012	0.278	0	0	10.486	57.599	0.2	10.999	0.039	0.133	20.264	0.109	0.173	100.29	3.415984	17.19	100.63

Sample	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Delta-1-74	0.015	0.298	0	0	9.859	56.748	0.27	11.028	0.016	0.42	20.557	0.084	0.226	99.521	4.3318	16.66	99.955
Delta-1-75	0.022	0.28	0.01	0.049	9.951	57.05	0.26	11.02	0.037	0.417	20.279	0.077	0.136	99.588	3.892025	16.78	99.978
Delta-1-76	0.007	0.082	0	0	11.679	55.253	0.39	10.473	0.039	0.359	20.889	0.058	0.106	99.335	3.353325	17.87	99.671
Delta-1-77	0	0	0.021	0	11.226	53.348	0.38	8.872	0.027	0.537	24.451	0.044	0.294	99.2	5.130183	19.83	99.714
Delta-1-78	0.047	0.195	0	0.016	10.05	57.142	0.25	10.772	0.012	0.359	20.443	0.094	0.213	99.593	3.728716	17.09	99.967
Delta-1-79	0	3.713	0.013	0.073	0.559	41.202	0.42	5.33	0.03	0.494	46.346	0.222	0.133	98.535	21.41154	27.08	100.68
Delta-1-80	0	0.038	0	0	22.844	47.379	0.24	13.23	0.031	0.343	15.481	0.071	0.133	99.79	0.29905	15.21	99.82
Delta-1-81	0	0.013	0.027	0	12.126	54.651	0.28	10.635	0.039	0.372	21.101	0.058	0.194	99.496	4.060818	17.45	99.903
Delta-1-83	0.022	2.867	0.001	0.093	1.261	56.382	0.49	8.062	0.033	0.355	29.22	0.14	0.165	99.091	7.453588	22.51	99.838
Delta-1-84	0.001	0.059	0.008	0	11.245	53.638	0.32	10.153	0.034	0.482	22.928	0.14	0.051	99.059	5.517166	17.96	99.612
Delta-1-85	0.008	0.293	0	0	10.153	56.833	0.18	10.899	0.028	0.32	20.362	0.028	0.056	99.16	3.822398	16.92	99.543
Delta-1-86	0.016	0.192	0	0.025	11.967	54.931	0.21	10.673	0.077	0.349	20.86	0.051	0.17	99.521	3.80884	17.43	99.903
Delta-1-88	0.008	1.685	0.009	0	0.658	57.216	0.63	7.222	0.032	0.634	30.783	0.145	0.201	99.223	9.141183	22.56	100.14
Delta-1-89	0.005	0.467	0	0.048	7.791	56.205	0.26	9.37	0.024	0.243	24.685	0.221	0.19	99.509	6.19265	19.11	100.13
Delta-1-90	0.036	0.011	0.018	0	12.572	54.498	0.41	10.841	0.045	0.256	20.542	0.075	0.162	99.466	3.334319	17.54	99.8
Delta-1-91	0	2.376	0.039	0	1.421	58.858	0.35	8.81	0	0.488	26.695	0.102	0.066	99.205	6.601636	20.75	99.866
Delta-1-93	0.008	2.702	0	0	1.542	56.771	0.32	8.587	0.091	0.416	28.121	0.177	0.055	98.79	7.777518	21.12	99.569
Delta-1-94	0	0.348	0.01	0.01	10.16	57.123	0.33	11.089	0.023	0.185	20.334	0.082	0.167	99.861	3.563485	17.13	100.22
Delta-1-95	0.009	0.009	0.022	0.028	12.511	54.289	0.37	10.821	0.054	0.23	20.924	0.058	0.16	99.485	3.774817	17.53	99.863
Delta-1-96	0.002	0.041	0	0	11.662	53.78	0.34	9.377	0.025	0.462	23.614	0.154	0.196	99.653	4.807134	19.29	100.13
Delta-1-97	0.01	0.68	0.025	0	4.602	60.204	0.31	8.556	0.012	0.174	25.045	0.094	0.166	99.878	5.09059	20.46	100.39
Delta-1-98	0.011	0.065	0	0.017	10.869	54.162	0.23	10.131	0.038	0.342	23.147	0.128	0.101	99.241	5.741669	17.98	99.816
Delta-1-99	0.037	0.252	0.045	0	10.48	56.686	0.27	10.903	0	0.243	20.564	0.094	0.146	99.72	3.635392	17.29	100.08
Delta-1-1*	0	0.091	0.008	0.004	11.886	55.157	0.29	10.576	0.025	0.055	21.732	0.068	0.21	100.1	4.063835	18.08	100.51
Delta-1-3*	0.025	1.945	0.008	0.013	2.778	56.137	0.39	8.47	0.048	0.479	29.31	0.183	0.133	99.919	8.955304	21.25	100.82
Delta-1-7*	0	0.083	0.029	0	9.238	53.211	0.29	9.242	0.05	0.42	26.646	0.04	0.256	99.505	8.299962	19.18	100.34
Delta-1-17*	0.011	1.796	0.034	0	1.245	61.886	0.32	9.262	0.075	0.386	24.342	0.13	0.034	99.521	5.302146	19.57	100.05
Delta-1-18*	0.002	2.68	0	0.001	1.378	57.751	0.31	8.617	0.035	0.419	27.338	0.107	0.139	98.777	6.993225	21.05	99.478
Delta-1-21*	0.01	0.146	0.038	0	9.461	52.895	0.25	9.276	0	0.32	26.35	0.038	0.053	98.837	7.830693	19.3	99.622
Delta-1-22*	0.025	3.111	0	0.003	3.046	57.27	0.37	9.878	0.098	0.477	25.073	0.204	0.013	99.568	5.627714	20.01	100.13
Delta-1-26*	0.024	4.876	0	0.003	0.939	43.103	0.76	6.311	0.038	0.409	41.96	0.168	0.172	98.763	16.31239	27.28	100.4
Delta-1-27*	0.011	0.24	0.009	0	10.268	56.482	0.35	10.933	0.002	0.405	20.194	0.06	0.048	99.002	3.56678	16.98	99.359
Delta-1-28*	0.014	1.862	0	0	5.332	44.782	0.44	6.231	0.002	0.743	38.328	0.204	0.123	98.061	15.53585	24.35	99.618
Delta-1-31*	0.021	0.255	0.01	0	10.235	57.123	0.17	10.741	0.015	0.209	20.489	0.105	0.172	99.545	3.632696	17.22	99.909
Delta-1-34*	0.009	0.277	0	0	10.007	56.947	0.27	10.777	0	0.443	20.445	0.078	0.042	99.295	3.686507	17.13	99.664
Delta-1-35*	0.011	0.265	0.017	0	9.95	57.139	0.22	10.834	0.063	0.236	20.241	0.056	0.127	99.159	3.60859	16.99	99.521
Delta-1-36*	0.043	0.313	0	0.046	9.873	56.765	0.15	10.73	0.045	0.248	20.612	0.077	0.146	99.048	3.944424	17.06	99.443
Delta-1-37*	0.031	3.131	0	0.032	3.073	57.206	0.37	9.982	0.072	0.377	25.221	0.116	0	99.611	5.650324	20.14	100.18
Delta-1-40*	0.023	0.242	0	0.073	9.601	57.487	0.15	10.88	0.03	0.271	20.465	0.087	0.228	99.537	4.093828	16.78	99.947
Delta-1-44*	0.002	0.161	0	0.01	10.921	54.633	0.18	10.099	0.06	0.286	23.038	0.086	0.18	99.656	5.423543	18.16	100.2
Delta-1-47*	0.021	0.226	0	0	10.102	56.603	0.26	10.883	0.055	0.372	20.394	0.131	0.17	99.217	4.047127	16.75	99.622
Delta-1-49*	0.004	0.188	0	0.001	10.18	56.753	0.32	10.812	0	0.395	20.467	0.089	0.109	99.318	3.766435	17.08	99.695
Delta-1-50*	0.006	2.918	0	0	1.131	55.405	0.47	7.823	0.054	0.535	30.59	0.123	0.021	99.076	8.692965	22.77	99.947
Delta-1-55*	0.007	4.418	0.068	0	1.114	45.65	0.74	6.712	0.045	0.473	39.04	0.131	0.178	98.576	14.31593	26.16	100.01
Delta-1-58*	0.032	0.293	0	0.043	10.07	57.095	0.15	10.856	0.041	0.245	20.68	0.152	0.082	99.739	3.996925	17.08	100.14
Delta-1-60*	0	0.059	0	0.006	12.024	54.542	0.33	10.392	0.016	0.275	21.532	0.051	0.109	99.336	3.864608	18.05	99.723
Delta-1-62*	0.015	0.385	0.017	0.047	10.213	56.393	0.22	10.883	0.062	0.49	20.233	0.105	0.178	99.241	3.842554	16.78	99.626
Delta-1-63*	0.046	0.291	0	0.009	9.915	57.499	0.23	10.782	0.041	0.232	20.373	0.068	0	99.486	3.330637	17.38	99.82
Delta-1-64*	0.024	0.303	0.029	0	9.726	57.605	0.3	10.981	0.106	0.379	20.262	0.093	0.127	99.935	3.692135	16.94	100.3
Delta-1-65*	0.023	0.347	0.033	0.064	8.647	56.379	0.21	10.53	0.046	0.638	22.578	0.098	0.177	99.77	6.046991	17.14	100.38
Delta-1-66*	0.03	0.186	0	0	9.705	57.55	0.37	10.742	0.029	0.334	20.56	0.038	0.133	99.677	3.528003	17.39	100.03
Delta-1-69*	0.008	1.847	0.059	0	9.592	44.198	0.4	7.141	0.043	0.283	34.859	0.153	0.119	98.702	11.83167	24.21	99.887
Delta-1-79*	0.018	1.647	0	0	1.001	62.841	0.19	9.362	0.049	0.467	23.987	0.092	0.241	99.895	5.608704	18.94	100.46
Delta-1-80*	0.015	1.671	0	0.02	1.153	63.01	0.23	9.096	0.032	0.411	23.823	0.185	0.244	99.89	4.882045	19.43	100.38
Delta-1-81*	0.038	3.194	0	0	2.984	56.757	0.44	9.872	0.058	0.3	25.515	0.172	0.003	99.333	5.684651	20.4	99.903
Delta-1-82*	0.032	2.813	0	0	3.27	57.832	0.39	9.914	0.01	0.29	24.94	0.139	0.084	99.714	5.385444	20.09	100.25

* These chromite grains were mixed in with the Delta-1 ilmenite analyses

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
Delta-1-2	core	0.003	50.04	0.442	0.082	0	4.01	0.17	10.18	0.018	0.276	33.963	0.169	0	99.353	7.520503	27.2	100.11	55.742	37.255	7.003	100
Delta-1-4	core	0	49.687	0.477	0	0.033	4.219	0.03	10.295	0	0.309	33.9	0.12	0.084	99.154	8.339611	26.4	99.99	54.432	37.831	7.737	100
Delta-1-5	core	0	51.457	0.363	0.041	0.13	4.256	0.13	11.769	0.018	0.174	30.14	0.176	0	98.654	5.094032	25.56	99.164	52.307	42.970	4.723	100
Delta-1-6	core	0.007	51.305	0.214	0.013	0.001	3.872	0.18	10.616	0	0.489	32.178	0.047	0.019	98.941	5.539323	27.19	99.496	55.938	38.926	5.137	100
Delta-1-8	core	0.023	48.238	0.577	0.125	0.043	3.35	0.22	8.664	0	0.439	36.836	0.075	0.124	98.714	9.383357	28.39	99.654	58.966	32.156	8.877	100
Delta-1-9	core	0.018	49.879	0.467	0.039	0.065	4.162	0.04	9.603	0.028	0.396	33.9	0.019	0.013	98.629	6.679812	27.89	99.298	58.057	35.655	6.288	100
Delta-1-10	core	0	50.136	0.365	0.015	0.064	4.277	0.25	10.179	0	0.373	32.973	0.129	0.074	98.835	6.44022	27.18	99.48	56.355	37.625	6.020	100
Delta-1-11	core	0	50.071	0.372	0.104	0.004	4.347	0.21	10.239	0.012	0.417	33.192	0.12	0.082	99.17	6.929731	26.96	99.864	55.686	37.787	6.527	100
Delta-1-12	core	0.008	53.111	0.144	0.082	0.167	3.387	0.18	12.146	0	0.416	29.25	0.145	0	99.036	3.547294	26.06	99.391	52.779	43.928	3.293	100
Delta-1-13	core	0.018	50.161	0.426	0.055	0.032	4.236	0.1	10.31	0.049	0.462	33.12	0.08	0	99.049	7.020267	26.8	99.752	55.401	38.025	6.574	100
Delta-1-14	core	0	50.055	0.456	0.076	0.057	4.142	0.36	10.665	0.011	0.346	33.076	0.131	0.032	99.407	7.197735	26.6	100.13	54.386	38.930	6.684	100
Delta-1-15	core	0.004	51.191	0.401	0.069	0.036	4.305	0	10.268	0.028	0.462	32.962	0.161	0	99.887	6.002924	27.56	100.49	56.691	37.699	5.611	100
Delta-1-16	core	0.032	52.008	0.11	0	0.159	3.802	0.18	11.76	0.007	0.267	30.247	0.197	0	98.769	4.959242	25.78	99.266	52.652	42.792	4.556	100
Delta-1-19	core	0.006	49.145	0.62	0.033	0.044	3.211	0.08	9.469	0.026	0.389	36.022	0.126	0	99.171	9.363346	27.6	100.11	56.655	34.668	8.677	100
Delta-1-20	core	0.014	49.752	0.466	0.062	0	4.137	0.04	10.126	0.015	0.4	33.415	0.121	0.063	98.611	7.43745	26.72	99.356	55.481	37.520	7.000	100
Delta-1-23	core	0	49.744	0.406	0.065	0.035	4.382	0.19	10.331	0	0.394	32.776	0.222	0.077	98.622	7.059995	26.42	99.329	54.974	38.363	6.663	100
Delta-1-24	core	0.007	48.821	0.623	0.08	0	3.216	0.09	9.437	0.042	0.229	36.279	0.148	0	98.972	9.719123	27.53	99.946	56.434	34.533	9.033	100
Delta-1-25	core	0.009	48.939	0.638	0.096	0	3.168	0	9.608	0.037	0.308	35.417	0.096	0	98.316	9.133878	27.2	99.231	56.068	35.376	8.555	100
Delta-1-29	core	0.007	53.277	0.12	0.04	0.239	4.124	0.08	12.648	0.02	0.256	28.018	0.136	0	98.965	3.081262	25.25	99.274	51.303	45.850	2.847	100
Delta-1-30	core	0.007	50.29	0.453	0.032	0.051	4.278	0.22	10.33	0	0.388	32.633	0.15	0.037	98.869	6.135875	27.11	99.484	56.124	38.135	5.741	100
Delta-1-32	core	0.017	50.355	0.438	0.055	0	4.291	0.02	11.139	0	0.301	31.691	0.113	0	98.42	6.791698	25.58	99.1	52.704	40.955	6.341	100
Delta-1-33	core	0.001	53.208	0.208	0.038	0.073	3.082	0.02	11.628	0.032	0.373	31.083	0.162	0.027	99.935	4.748575	26.81	100.41	53.943	41.730	4.327	100
Delta-1-38	core	0.015	50.85	0.276	0.014	0.097	4.43	0.17	10.495	0	0.239	32.236	0.196	0.108	99.126	5.715755	27.09	99.699	56.002	38.671	5.327	100
Delta-1-41	core	0.011	51.665	0.254	0.05	0	4.169	0	11.097	0.037	0.444	31.63	0.162	0	99.519	5.865352	26.35	100.11	53.990	40.564	5.446	100
Delta-1-42	core	0.002	49.969	0.384	0.037	0.043	4.085	0.11	10.167	0	0.374	33.552	0.109	0.124	98.956	7.460071	26.84	99.703	55.517	37.510	6.974	100
Delta-1-43	core	0.018	47.815	0.639	0.075	0.001	3.13	0.18	8.264	0	0.406	37.616	0.121	0.124	98.389	9.931323	28.68	99.384	59.835	30.776	9.389	100
Delta-1-45	core	0.012	53.332	0.171	0.055	0.14	3.301	0.05	12.064	0	0.299	29.443	0.118	0	98.985	3.428001	26.36	99.328	53.305	43.535	3.159	100
Delta-1-46	core	0	51.163	0.388	0.06	0.032	4.329	0	10.242	0	0.286	33.091	0.136	0.071	99.798	5.955192	27.73	100.39	56.932	37.520	5.548	100
Delta-1-48	core	0.013	52.707	0.218	0	0.099	2.896	0.06	11.316	0	0.288	31.484	0.111	0	99.192	4.784051	27.18	99.671	54.911	40.740	4.349	100
Delta-1-51	core	0.004	50.357	0.442	0.078	0.11	4.264	0.09	11.263	0	0.304	31.592	0.056	0.125	98.685	6.863283	25.42	99.373	52.247	41.341	6.412	100
Delta-1-52	core	0	50.677	0.383	0.013	0.069	4.188	0.1	10.25	0.008	0.438	32.95	0.15	0.016	99.242	6.3079	27.27	99.874	56.365	37.759	5.876	100
Delta-1-53	core	0	48.33	0.677	0.053	0	3.227	0.2	8.39	0	0.411	37.391	0.093	0.097	98.869	9.324374	29	99.803	60.184	31.064	8.752	100
Delta-1-54	core	0.008	48.628	0.633	0.077	0.036	3.154	0.2	10.254	0.018	0.399	35.001	0.126	0	98.534	10.03904	25.97	99.54	53.184	37.496	9.320	100
Delta-1-56	core	0	50.041	0.401	0.05	0.104	4.125	0.1	10.24	0.038	0.376	33.193	0.158	0	98.826	7.111166	26.79	99.538	55.494	37.838	6.668	100
Delta-1-57	core	0.013	50.216	0.2	0.042	0.007	4.322	0.08	10.172	0.051	0.389	33.708	0.179	0.013	99.392	7.707436	26.77	100.16	55.313	37.488	7.200	100
Delta-1-59	core	0	50.32	0.39	0.073	0.002	4.25	0.08	10.342	0.024	0.375	32.361	0.176	0.058	98.451	6.196501	26.79	99.072	55.728	38.412	5.860	100
Delta-1-61	core	0	50.222	0.363	0.078	0.051	4.142	0.02	10.703	0.037	0.349	32.622	0.123	0	98.71	7.309303	26.05	99.442	53.729	39.422	6.850	100
Delta-1-70	core	0	49.099	0.627	0.081	0.125	3.316	0.24	10.464	0.035	0.288	34.736	0.124	0.069	99.204	9.599253	26.1	100.17	53.114	38.025	8.861	100
Delta-1-71	core	0.011	48.049	0.714	0.054	0	3.149	0.23	9.377	0	0.267	35.936	0.068	0.005	97.86	9.551304	27.34	98.817	56.499	34.574	8.927	100
Delta-1-72	core	0	49.843	0.468	0.067	0	4.05	0.24	10.242	0.033	0.388	33.209	0.049	0	98.589	6.882053	27.02	99.279	55.796	37.754	6.450	100
Delta-1-73	core	0.009	52.515	0.217	0.052	0.061	3.136	0.27	11.155	0.011	0.276	31.512	0.101	0	99.315	4.279859	27.66	99.744	55.871	40.200	3.928	100
Delta-1-74	core	0	50.644	0.376	0.035	0.022	4.388	0.11	11.588	0.014	0.431	31.285	0.18	0	99.073	7.13226	24.87	99.788	51.000	42.389	6.610	100
Delta-1-75	rim	0.003	51.1	0.27	0.058	0.046	4.078	0	10.523	0.015	0.418	32.51	0.143	0	99.164	6.175954	26.95	99.783	55.536	38.692	5.772	100
Delta-1-76	core	0.016	51.933	0.161	0	0.074	4.056	0	10.595	0	0.236	32.385	0.124	0.098	99.678	5.352394	27.57	100.21	56.427	38.644	4.929	100
Delta-1-77	rim	0.002	48.889	0.664	0.092	0	3.17	0.21	9.631	0	0.378	35.941	0.078	0	99.055	9.430823	27.46	100	56.103	35.147	8.750	100
Delta-1-78	core	0.019	48.314	0.613	0.119	0.016	3.095	0.02	8.462	0.043	0.423	37.24	0.092	0.011	98.467	9.624435	28.58	99.431	59.441	31.448	9.111	100
Delta-1-83	rim	0.008	50.568	0.357	0.061	0.034	4.317	0.16	10.235	0	0.328	33.206	0.178	0.093	99.545	6.522464	27.34	100.2	56.294	37.613	6.093	100
Delta-1-84	core	0	50.714	0.38	0.068	0.025	4.355	0	10.203	0	0.332	33.219	0.148	0	99.444	6.467697	27.4	100.09	56.439	37.512	6.049	100
Delta-1-67*	core	0.013	49.698	0.434	0.053	0	3.962	0.13	9.878	0	0.58	34.042	0.029	0.011	98.83	7.617238	27.19	99.593	56.335	36.520	7.146	100
Delta-1-71*	core	0.013	52.466	0.088	0.005	0.113	2.971	0	11.112	0.073	0.408	31.311	0.072	0	98.632	4.88391	26.92	99.121	55.022	40.483	4.496	100
Delta-1-82*	core	0.007	49.882	0.442	0.053	0.028	4.178	0.07	10.04	0.047	0.247	33.563	0.165	0.013	98.735	7.164975	27.12	99.453	56.170	37.108	6.722	100
Delta-1-87*	core	0	53.125	0.198	0.005	0.192	3.073	0.11	12.155	0	0.449	29.498	0.117	0	98.922	3.958274	25.94	99.319	52.522	43.868	3.610	100

* These ilmenite grains were mixed in with the Delta-1 chromite analyses

Pyroxene

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Delta-1-4	55.413	0.2	2.579	1.506	16.51	18.9	0.097	3.022	0.031	2.137	0.001	100.39

Olivine

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Delta-1-1	41.388	0.008	0	0.008	50.974	0	0.084	7.62	0.369	0	0.04	100.49
Delta-1-2	41.272	0.026	0.052	0	49.908	0.074	0.088	8.854	0.391	0.007	0.016	100.69
Delta-1-3	40.658	0.042	0	0	48.247	0	0.124	10.45	0.237	0	0	99.756
Delta-1-4	41.759	0	0.001	0	51.596	0	0.126	7.098	0.27	0.008	0	100.86
Delta-1-5	41.278	0.01	0	0.019	50.827	0	0.099	7.479	0.337	0.003	0.046	100.1
Delta-1-6	41.128	0.013	0	0	49.528	0.002	0.119	9.49	0.374	0.007	0.01	100.67
Delta-1-7	40.818	0.033	0	0.017	48.384	0.031	0.138	10.81	0.237	0.006	0	100.47
Delta-1-8	41.086	0.023	0	0.018	49.547	0.039	0.109	9.398	0.392	0.01	0.025	100.65
Delta-1-9	41.139	0.045	0	0.026	49.863	0.015	0.171	8.963	0.324	0	0	100.55
Delta-1-10	40.522	0.025	0.011	0	46.747	0.052	0.162	12.75	0.348	0	0	100.62
Delta-1-11	40.801	0.001	0.026	0	48.574	0	0.1	10.6	0.269	0.003	0	100.37
Delta-1-12	40.737	0.037	0	0.051	48.524	0.009	0.17	10.52	0.226	0.003	0	100.28
Delta-1-13	40.835	0	0	0	49.367	0	0.16	9.5	0.355	0.005	0.002	100.22
Delta-1-14	40.891	0.001	0.006	0.011	48.976	0.077	0.185	9.852	0.317	0.013	0	100.33
Delta-1-15	40.919	0	0.015	0.01	48.694	0	0.144	10.59	0.29	0.006	0.008	100.68
Delta-1-16	40.613	0.022	0	0	48.266	0.026	0.16	10.57	0.332	0.001	0.005	99.991
Delta-1-17	40.734	0.046	0	0.022	48.318	0.024	0.167	10.92	0.206	0.003	0	100.44
Delta-1-18	40.658	0.015	0	0	46.886	0	0.2	12.76	0.352	0	0	100.87
Delta-1-19	40.956	0.02	0.046	0.008	49.358	0.025	0.12	9.563	0.319	0	0	100.42
Delta-1-20	41.325	0.009	0.004	0.001	50.326	0.003	0.071	8.483	0.39	0.009	0	100.62
Delta-1-21	41.25	0	0	0.037	49.847	0	0.122	8.524	0.304	0.004	0	100.09
Delta-1-22	41.105	0.014	0	0.011	49.9	0	0.156	8.354	0.383	0.004	0	99.927
Delta-1-23	41.21	0.013	0	0	49.43	0.026	0.197	9.525	0.39	0	0	100.79
Delta-1-24	40.692	0.038	0	0.032	48.539	0.025	0.139	10.66	0.275	0	0.041	100.44
Delta-1-25	40.513	0.051	0	0.014	47.058	0.006	0.232	12.16	0.099	0.002	0	100.14
Delta-1-26	41.355	0.025	0	0.03	50.315	0	0.129	7.849	0.351	0.003	0	100.06
Delta-1-27	40.847	0.02	0	0.022	49.101	0.012	0.167	9.661	0.35	0	0.01	100.19
Delta-1-28	41.45	0.017	0	0.039	49.065	0.021	0.15	9.533	0.323	0.002	0.014	100.61
Delta-1-29	41.19	0.037	0.022	0.014	49.645	0	0.149	8.957	0.346	0.004	0.007	100.37
Delta-1-30	40.912	0.01	0	0.013	48.508	0	0.109	10.57	0.249	0.018	0	100.39
Delta-1-31	41.55	0.003	0	0.039	50.258	0.016	0.119	8.544	0.368	0.004	0.011	100.91
Delta-1-32	40.839	0	0	0	49.089	0.003	0.153	9.884	0.267	0.01	0	100.25
Delta-1-33	41.199	0	0.031	0.02	50.602	0	0.108	8.384	0.33	0.002	0.019	100.7
Delta-1-34	40.983	0.026	0	0	49.526	0	0.113	9.145	0.334	0.01	0	100.14
Delta-1-35	40.846	0.047	0	0.065	49.856	0.078	0.156	8.748	0.441	0.016	0	100.25
Delta-1-36	40.962	0.013	0	0.058	48.246	0.061	0.13	10.86	0.184	0.007	0.011	100.53
Delta-1-37	41.479	0	0.002	0.009	50.575	0.03	0.091	7.895	0.369	0	0.028	100.48
Delta-1-38	40.816	0.011	0	0.036	48.598	0.041	0.152	10.57	0.267	0	0	100.49
Delta-1-39	40.706	0.024	0	0.026	48.436	0.007	0.174	10.72	0.295	0	0	100.39
Delta-1-40	40.911	0	0	0.001	49.518	0.023	0.156	9.027	0.306	0	0	99.942
Delta-1-41	40.787	0.049	0	0.06	48.751	0.013	0.116	10.4	0.249	0.017	0	100.44
Delta-1-42	41.309	0.026	0	0	49.854	0	0.162	8.888	0.325	0.009	0.016	100.59
Delta-1-43	41.299	0	0	0.011	49.23	0.065	0.184	9.711	0.353	0.003	0	100.86
Delta-1-44	41.222	0.024	0.019	0.033	49.491	0.01	0.152	9.294	0.322	0.006	0.022	100.6
Delta-1-45	40.765	0.011	0	0	48.553	0.02	0.129	10.63	0.279	0.014	0.016	100.42
Delta-1-46	40.897	0.011	0	0.008	49.546	0.03	0.109	9.071	0.333	0	0.027	100.03
Delta-1-47	40.785	0.034	0.029	0.023	48.252	0.03	0.24	10.51	0.235	0	0	100.14
Delta-1-48	40.754	0.033	0	0	48.422	0.017	0.174	10.67	0.326	0.003	0.011	100.41
Delta-1-49	41.139	0.017	0	0.022	50.129	0.012	0.173	8.779	0.3	0	0	100.57
Delta-1-50	41.337	0.05	0	0.027	50.888	0.042	0.105	7.812	0.331	0	0.016	100.61

Gulf-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Gulf-1-1	dk purple	40.992	0.2915	17.3615	7.8652	19.256	5.882	0.4179	7.758	0.005	0.065	0	99.894
Gulf-1-2	dk purple	41.809	0.1747	20.5127	4.069	20.333	4.99	0.3893	7.816	0	0.0314	0	100.12
Gulf-1-3	dk purple	41.496	0.3026	18.8531	6.3208	20.029	5.218	0.401	7.433	0.047	0.0685	0	100.17
Gulf-1-4	dk purple	41.029	0.1145	18.2296	7.0177	19.656	5.64	0.3978	7.738	0	0.0314	0.008	99.862
Gulf-1-5	dk purple	41.724	0.0056	21.401	3.3593	19.749	5.032	0.5436	8.396	0	0.021	0	100.23
Gulf-1-6	dk purple	41.351	0.0238	20.6278	4.2973	19.69	5.023	0.4912	8.418	0.005	0.0393	0	99.966
Gulf-1-7	dk purple	41.35	0.2845	18.9937	6.2157	20.186	5.22	0.3815	7.52	0	0.0608	0.004	100.22
Gulf-1-8	dk purple	41.439	0.1955	20.2695	4.4928	20.24	5.054	0.4185	7.851	0	0.0359	0.013	100.01
Gulf-1-9	dk purple	41.357	0.095	18.9464	6.4157	19.567	5.72	0.3895	8.078	0	0.0442	0	100.61
Gulf-1-10	dk purple	41.266	0.2323	18.8436	6.3531	19.818	5.446	0.432	7.338	0.018	0.0568	0	99.802
Gulf-1-11	dk purple	41.368	0.0168	20.213	4.9181	20.055	4.798	0.5472	8.163	0	0.0228	0.015	100.12
Gulf-1-12	dk purple	41.377	0.2852	18.8228	6.0189	20.018	5.164	0.3451	7.336	0	0.0568	0	99.423
Gulf-1-13	dk purple	41.927	0.2797	20.9962	3.4714	20.741	4.568	0.3289	8.274	0	0.0573	0	100.64
Gulf-1-14	dk purple	41.518	0.2115	19.5481	5.485	20.099	5.124	0.4657	7.805	0	0.0485	0.003	100.31
Gulf-1-15	dk purple	41.411	0.3007	19.4082	5.3723	20.075	5.19	0.3703	7.853	0.006	0.0416	0.012	100.04
Gulf-1-16	dk purple	41.285	0.2906	19.0109	6.324	19.946	5.347	0.3871	7.378	0	0.0583	0.015	100.04
Gulf-1-17	dk purple	41.429	0.2046	19.9945	5.174	20.377	4.867	0.4717	7.662	0.021	0.065	0	100.26
Gulf-1-18	dk purple	41.864	0.2098	19.5584	5.696	20.278	5.133	0.3677	7.369	0	0.0444	0	100.52
Gulf-1-19	dk purple	41.033	0.0578	18.612	6.754	19.172	5.905	0.377	7.732	0.022	0.017	0	99.682
Gulf-1-20	dk purple	41.219	0.2463	18.7649	6.3922	19.927	5.41	0.4123	7.303	0	0.042	0	99.716
Gulf-1-21	dk purple	41.668	0.1683	19.8101	5.0184	20.086	5.204	0.4633	7.732	0.006	0.0277	0	100.18
Gulf-1-22	dk purple	41.711	0.2763	19.0664	5.9633	20.337	5.026	0.4252	7.573	0	0.051	0	100.43
Gulf-1-23	dk purple	41.52	0.1524	18.7599	6.5508	19.738	5.529	0.4107	7.527	0.038	0.0462	0.014	100.29
Gulf-1-24	dk purple	41.713	0.158	20.0209	5.0411	20.22	5.258	0.4324	7.75	0.022	0.0365	0.006	100.66
Gulf-1-25	dk purple	41.25	0.1177	18.836	6.5739	19.759	5.477	0.4145	7.708	0	0.0352	0	100.17
Gulf-1-26	dk purple	41.429	0.2929	18.7529	6.4326	20.02	5.26	0.3745	7.292	0.053	0.0688	0.021	99.996
Gulf-1-27	dk purple	41.163	0.2586	17.2595	8.3753	19.02	6.116	0.4433	7.77	0	0.0511	0.024	100.48
Gulf-1-28	dk purple	41.351	0.308	18.2233	6.7369	19.211	5.948	0.4233	8.161	0.018	0.0376	0	100.42
Gulf-1-29	dk purple	41.701	0.1544	20.4178	4.4593	20.172	4.977	0.4551	7.765	0	0.0366	0.02	100.16
Gulf-1-30	dk purple	41.593	0.0403	20.9448	3.8417	20.273	4.638	0.548	8.13	0	0.0352	0.02	100.06
Gulf-1-31	dk purple	41.509	0.2952	18.8949	5.9891	20.244	5.215	0.3904	7.579	0	0.065	0	100.18
Gulf-1-32	dk purple	41.252	0.1293	18.7822	6.329	19.839	5.476	0.3791	7.434	0.032	0.0471	0	99.7
Gulf-1-33	dk purple	41.284	0.2954	18.785	6.0765	20.122	5.267	0.4195	7.549	0	0.0551	0.01	99.863
Gulf-1-34	dk purple	41.807	0.195	19.8281	5.4007	20.049	5.259	0.3877	7.724	0.038	0.0319	0.01	100.73
Gulf-1-35	dk purple	41.05	0.2989	17.3022	8.078	19.033	6.102	0.4842	7.538	0.04	0.0666	0	99.993
Gulf-1-36	dk purple	41.729	0.1529	19.9621	5.0016	20.178	5.244	0.4255	7.601	0.012	0.0338	0.015	100.35
Gulf-1-37	dk purple	41.261	0.0075	20.6653	4.1176	19.659	4.898	0.5368	8.489	0	0.0508	0.016	99.702
Gulf-1-38	dk purple	41.416	0.3114	18.9137	6.2075	20.192	5.152	0.4225	7.455	0.021	0.0613	0	100.15
Gulf-1-39	dk purple	41.093	0.2807	19.0051	6.3135	20.023	5.334	0.4235	7.62	0	0.0557	0.014	100.16
Gulf-1-40	dk purple	41.648	0.1895	20.2584	4.8866	20.276	5.143	0.4679	7.835	0.022	0.0328	0	100.76
Gulf-1-41	dk purple	41.701	0.1446	19.9966	5.0088	20.165	5.312	0.4062	7.777	0	0.0254	0	100.54
Gulf-1-42	dk purple	41.654	0.1577	19.9505	4.915	20.057	5.159	0.3879	7.696	0.007	0.0235	0	100.01
Gulf-1-43	dk purple	41.551	0.1728	19.9874	4.7381	20.172	5.254	0.3909	7.708	0.05	0.0302	0	100.05
Gulf-1-44	dk purple	41.269	0.1707	19.3739	5.3386	19.859	5.34	0.437	7.657	0.023	0.0334	0.016	99.518
Gulf-1-45	dk purple	41.312	0.1287	18.5717	6.8078	19.682	5.509	0.4125	7.516	0	0.0491	0	99.989
Gulf-1-46	dk purple	41.044	0.4949	17.5549	7.575	19.345	5.584	0.3867	7.996	0.009	0.0925	0.007	100.09
Gulf-1-47	dk purple	41.674	0.0332	20.8198	4.1168	19.846	4.964	0.5524	8.286	0	0.0308	0	100.32
Gulf-1-48	dk purple	41.629	0.4184	19.7221	4.9061	20.333	5.147	0.371	7.857	0.015	0.0475	0	100.45
Gulf-1-49	dk purple	40.945	0.463	18.1175	6.7975	19.518	5.432	0.4388	8.023	0	0.0592	0	99.794
Gulf-1-50	dk purple	41.326	0.3086	18.4284	6.7141	19.798	5.6	0.3695	7.532	0.04	0.038	0.018	100.17
Gulf-1-51	dk purple	41.435	0.0803	18.9047	6.4307	19.705	5.561	0.4266	7.496	0.015	0.0106	0	100.06
Gulf-1-52	dk purple	41.167	0.1647	19.7412	5.0595	20.177	5.22	0.4864	7.731	0.016	0.024	0	99.787
Gulf-1-53	dk purple	41.049	0.2429	18.6466	6.4579	19.778	5.449	0.4031	7.207	0	0.0473	0.036	99.317
Gulf-1-54	purple	41.79	0.1854	20.2559	4.6933	20.131	5.014	0.3921	7.995	0.037	0.0378	0.002	100.53
Gulf-1-55	purple	42.121	0.0071	22.1218	2.9595	21.189	4.208	0.4412	7.558	0	0.0053	0.003	100.62
Gulf-1-56	purple	41.825	0	21.5753	3.3218	19.796	5.016	0.6095	8.407	0.056	0.013	0	100.62
Gulf-1-57	purple	41.452	0.1217	20.0831	4.7836	20.039	5.286	0.4145	8.061	0	0.0271	0	100.27
Gulf-1-58	purple	41.571	0.1648	20.0329	5.0507	20.075	5.222	0.4218	7.577	0.018	0.0378	0.017	100.19
Gulf-1-59	purple	41.545	0.1658	19.9251	5.1221	20.081	5.265	0.4374	7.662	0.032	0.0197	0.023	100.28

Gulf-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Gulf-1-60	purple	41.709	0	20.7534	4.3217	20.475	4.508	0.6078	8.031	0.035	0.007	0	100.45
Gulf-1-61	purple	41.29	0.1887	19.8996	5.0697	20.026	5.316	0.433	7.5	0	0.0248	0	99.747
Gulf-1-62	purple	41.629	0.1864	20.0302	4.9782	20.187	5.176	0.4192	7.728	0.047	0.0275	0	100.41
Gulf-1-63	purple	41.579	0.0291	21.5341	3.4272	19.818	4.894	0.5736	8.649	0	0.012	0.011	100.53
Gulf-1-64	purple	41.73	0.2775	21.3772	3.2149	20.518	4.393	0.4366	8.123	0.007	0.0693	0	100.15
Gulf-1-65	purple	41.264	0.0164	20.5046	4.4277	18.247	6.369	0.6269	8.643	0.005	0.0092	0	100.11
Gulf-1-66	purple	41.468	0.0056	20.9214	3.7842	19.542	5.161	0.5671	8.186	0.069	0.0118	0	99.716
Gulf-1-67	purple	41.762	0	21.2306	3.6307	19.835	4.85	0.553	8.357	0.023	0.0212	0.023	100.29
Gulf-1-68	purple	41.948	0.007	21.5775	3.5758	20.179	4.74	0.5433	8.431	0.009	0.022	0	101.03
Gulf-1-69	purple	41.797	0.0042	21.2191	3.7977	19.925	4.906	0.544	8.473	0	0.0146	0	100.68
Gulf-1-70	purple	41.501	0	21.3521	3.3859	20.13	4.693	0.5224	8.26	0.012	0.0307	0	99.886
Gulf-1-71	purple	41.526	0	20.8	3.885	19.662	5.3	0.5096	8.296	0.01	0.0219	0.019	100.03
Gulf-1-72	purple	41.968	0.0658	22.1027	2.3563	20.034	5	0.4084	8.514	0.027	0.0123	0	100.49
Gulf-1-73	purple	41.759	0.2212	20.8626	3.6193	20.266	4.937	0.3979	8.525	0.032	0.0317	0	100.65
Gulf-1-74	purple	41.664	0.0665	20.9853	3.9928	20.01	4.623	0.5699	8.454	0.006	0.0386	0	100.41
Gulf-1-75	purple	41.512	0.1612	19.8139	5.191	20.063	5.208	0.4022	7.6	0	0.0241	0	99.976
Gulf-1-76	purple	41.888	0.1574	21.0873	3.3982	20.5	4.812	0.348	8.094	0	0.0258	0	100.31
Gulf-1-77	purple	41.633	0.1813	19.936	5.0911	19.952	5.206	0.4292	7.789	0	0.0292	0	100.25
Gulf-1-78	purple	41.525	0.0061	21.3403	3.4844	20.034	4.525	0.4378	8.309	0	0.0266	0.029	99.717
Gulf-1-79	purple	41.553	0	21.0413	3.6444	19.993	4.79	0.5123	8.384	0	0.0045	0	99.922
Gulf-1-80	purple	41.519	0.2323	20.6151	3.7134	20.319	4.923	0.4296	8.272	0.002	0.0485	0.019	100.09
Gulf-1-81	purple	41.648	0.2029	19.9137	4.9459	20.488	4.9	0.356	7.762	0	0.0589	0	100.27
Gulf-1-82	purple	41.498	0.1583	20.1598	5.0168	20.038	5.207	0.4262	7.723	0.044	0.03	0	100.3
Gulf-1-83	purple	41.945	0.0217	22.9739	1.1763	19.618	4.809	0.3345	9.029	0	0.0178	0.016	99.941
Gulf-1-84	purple	41.538	0.0042	20.9154	4.1746	19.214	5.717	0.5764	8.474	0	0.0042	0.005	100.62
Gulf-1-85	purple	41.715	0.4052	19.5035	4.9749	20.088	5.209	0.3854	7.839	0	0.0582	0	100.18
Gulf-1-86	purple	41.675	0	21.4965	3.176	19.582	5.048	0.5776	8.328	0	0.0029	0	99.885
Gulf-1-87	purple	41.529	0.0108	20.679	4.4567	20.231	4.598	0.5346	8.169	0.012	0.0238	0	100.24
Gulf-1-88	purple	41.566	0	21.3771	3.405	20.234	4.689	0.5168	8.356	0	0.0156	0	100.16
Gulf-1-89	purple	41.531	0.1804	19.7858	5.1309	20.139	5.17	0.4081	7.687	0	0.0319	0	100.06
Gulf-1-90	purple	41.687	0.0475	21.8118	2.5501	20.059	4.964	0.4694	8.56	0	0.0078	0	100.16
Gulf-1-91	purple	41.773	0	21.7741	3.1512	20.301	4.488	0.5227	8.283	0	0.0359	0.012	100.34
Gulf-1-92	purple	41.936	0	21.7087	3.3948	19.926	4.825	0.5885	8.497	0	0.0189	0	100.89
Gulf-1-93	purple	41.731	0.1519	20.0981	4.8094	20.15	5.105	0.4476	7.754	0.015	0.0263	0.018	100.31
Gulf-1-94	purple	41.535	0	21.3273	3.5139	19.833	5.194	0.6071	7.962	0.022	0.0087	0	100
Gulf-1-95	purple	41.622	0.0202	21.2573	3.3854	19.525	5.064	0.5478	8.363	0.015	0.0153	0	99.815
Gulf-1-96	purple	41.999	0	21.3783	3.678	19.763	4.872	0.594	8.523	0.004	0.0103	0.006	100.83
Gulf-1-97	purple	41.855	0.0005	21.3085	3.6406	19.686	5.274	0.5632	8.308	0.001	0.0056	0	100.64
Gulf-1-98	purple	41.684	0.2058	20.983	3.5891	20.186	4.941	0.3678	8.151	0.009	0.0169	0.021	100.15
Gulf-1-99	purple	41.382	0.1679	20.0721	4.9266	19.979	5.253	0.4789	7.509	0.019	0.0203	0.011	99.82
Gulf-1-100	purple	41.558	0.1673	19.2655	5.5989	20.28	4.91	0.4109	7.387	0.021	0.0512	0	99.65
Gulf-1-101	purple	41.396	0.0264	20.499	4.3452	18.96	5.858	0.5494	8.585	0	0.01	0.024	100.25
Gulf-1-102	purple	41.59	0.0099	21.322	3.3705	19.967	4.775	0.51	8.617	0	0.0171	0	100.18
Gulf-1-103	purple	41.506	0.0239	21.1612	3.7882	18.881	5.816	0.5604	8.626	0	0.0114	0	100.37
Gulf-1-104	purple	41.648	0.1014	20.9146	3.8079	20.056	4.851	0.4421	8.336	0.019	0.0301	0	100.21
Gulf-1-105	purple	41.969	0.3135	20.5009	4.1972	20.582	4.778	0.3808	7.5	0	0.0643	0	100.29
Gulf-1-106	purple	41.321	0.1523	19.0525	6.4556	19.857	5.438	0.4468	7.574	0.006	0.0369	0.007	100.35
Gulf-1-107	purple	41.533	0.2043	20.7426	3.7723	20.044	5.069	0.4086	8.301	0.034	0.0388	0.022	100.17
Gulf-1-108	purple	41.663	0.0286	20.8965	4.026	19.781	4.916	0.5241	8.279	0	0.0321	0	100.14
Gulf-1-109	purple	41.708	0.2207	19.9324	5.0055	20.306	4.861	0.4293	7.524	0.012	0.0463	0	100.04
Gulf-1-110	purple	42.021	0.2326	21.4985	3.054	21.094	4.837	0.3696	7.453	0	0.0624	0	100.62
Gulf-1-111	purple	41.448	0.0684	20.6618	4.2618	20.174	4.233	0.5264	8.752	0	0.0386	0	100.16
Gulf-1-112	purple	40.987	0.1264	18.4645	6.958	18.883	5.947	0.4996	7.924	0.022	0.0307	0.004	99.847
Gulf-1-113	purple	41.87	0	21.5931	3.4365	19.794	5.118	0.5255	8.474	0.016	0.0122	0.009	100.85
Gulf-1-114	purple	41.568	0.1633	19.9449	5.001	20.277	5.228	0.4453	7.622	0.038	0.0356	0	100.32
Gulf-1-115	purple	41.606	0.0005	20.7311	4.1257	19.476	5.316	0.5545	8.178	0.006	0.0143	0	100.01
Gulf-1-116	purple	41.716	0	21.331	3.4121	19.72	4.89	0.5509	8.363	0	0.012	0.014	100.01
Gulf-1-117	purple	41.253	0.2896	18.872	6.0662	20.34	5.189	0.384	7.505	0.025	0.0693	0	99.993
Gulf-1-118	purple	41.452	0.1575	20.027	4.8562	20.21	5.139	0.4207	7.719	0.01	0.0184	0.044	100.05

Gulf-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Gulf-1-119	purple	41.733	0.1235	22.0922	2.0927	20.487	4.423	0.4956	8.112	0	0.031	0.003	99.593
Gulf-1-120	purple	41.893	0	21.4449	3.1372	20.171	4.709	0.5036	8.314	0	0.0233	0	100.2
Gulf-1-121	purple	41.537	0.0525	20.8576	4.0178	19.585	4.794	0.5669	8.681	0.054	0.054	0	100.2
Gulf-1-122	purple	41.622	0	21.1731	3.7485	19.905	4.904	0.5169	8.487	0.01	0.0105	0.027	100.4
Gulf-1-123	purple	41.564	0.0061	21.3191	3.5379	20.068	4.56	0.4708	8.601	0	0.025	0	100.15
Gulf-1-124	purple	42.004	0.0405	22.1619	2.4288	19.97	4.923	0.4756	8.702	0.028	0.0168	0	100.75
Gulf-1-125	purple	41.581	0	20.998	3.8493	19.517	5.311	0.5803	8.516	0	0.016	0.02	100.39
Gulf-1-126	purple	41.859	0.0103	20.9285	3.952	19.832	4.978	0.5352	8.675	0.003	0.0066	0	100.78
Gulf-1-127	purple	41.435	0.1543	19.9056	5.1186	19.956	5.274	0.4605	7.38	0.05	0.0302	0	99.764
Gulf-1-128	purple	41.503	0.2576	20.2327	4.5526	20.378	4.868	0.4269	7.82	0.019	0.0289	0	100.09
Gulf-1-129	purple	41.736	0	21.0994	3.6919	19.689	4.834	0.5934	8.463	0	0.0184	0.039	100.16
Gulf-1-130	purple	41.693	0.1779	19.9287	5.0616	20.085	5.362	0.41	7.549	0.004	0.0265	0	100.3
Gulf-1-131	purple	41.658	0.0122	21.178	3.7569	20.143	4.772	0.485	8.253	0	0.0219	0	100.28
Gulf-1-132	purple	41.338	0.2742	18.7681	6.4146	19.929	5.367	0.3715	7.4	0.034	0.0576	0	99.954
Gulf-1-133	purple	41.661	0	21.3879	3.3651	20.009	4.769	0.5231	8.323	0.056	0.0235	0	100.12
Gulf-1-134	purple	41.443	0.1782	19.8794	4.998	20.015	5.242	0.3889	7.776	0	0.0367	0	99.957
Gulf-1-135	purple	41.657	0.1703	19.8285	5.1928	20.152	5.335	0.4141	7.755	0	0.0226	0	100.53
Gulf-1-136	purple	41.581	0.0188	21.274	3.3939	20.292	4.402	0.5218	8.329	0	0.0336	0	99.846
Gulf-1-137	purple	41.531	0.0366	21.0507	3.9243	19.93	4.629	0.5056	8.372	0.044	0.0246	0	100.05
Gulf-1-138	purple	41.446	0.1731	20.0149	4.9173	20.046	5.223	0.4225	7.682	0	0.0344	0	99.959
Gulf-1-139	purple	41.508	0.1618	19.9566	4.9352	20.077	5.188	0.4099	7.968	0.013	0.0355	0	100.25
Gulf-1-140	purple	41.279	0.1095	18.5492	6.485	19.752	5.457	0.4389	7.605	0	0.0429	0.03	99.748
Gulf-1-141	purple	41.528	0.2035	19.8781	5.0351	20.513	4.949	0.4297	7.751	0.053	0.04	0	100.38
Gulf-1-142	purple	41.554	0.1474	19.8878	5.0044	20.001	5.17	0.3946	7.618	0.004	0.0319	0.007	99.82
Gulf-1-143	purple	41.545	0.0947	19.8535	5.3994	20.51	4.948	0.4043	7.406	0	0.0325	0.004	100.2
Gulf-1-144	purple	41.098	0.2729	17.7065	7.762	19.567	5.76	0.4888	7.572	0.031	0.0647	0.002	100.33
Gulf-1-145	purple	41.255	0.2312	19.4604	5.2687	20.138	5.058	0.4678	7.377	0	0.0689	0	99.325
Gulf-1-146	purple	41.675	0.008	21.9471	2.8657	19.499	5.152	0.6148	8.608	0	0.0107	0	100.38
Gulf-1-147	purple	41.605	0.1525	19.8853	5.0299	20.102	5.244	0.4735	7.63	0.034	0.0348	0	100.19
Gulf-1-148	purple	41.554	0.1	19.9671	4.7144	20.07	5.26	0.4257	7.956	1E-04	0.0239	0.008	100.08
Gulf-1-149	purple	41.403	0.1437	19.9994	4.9221	19.916	5.298	0.4511	7.402	0.007	0.0431	0	99.586
Gulf-1-150	red	41.689	0.2218	20.9446	3.7889	20.333	4.898	0.39	8.207	0	0.0262	0	100.5
Gulf-1-151	red	41.534	0.1629	19.9402	4.9162	19.985	5.184	0.4721	7.839	0.065	0.0336	0	100.13
Gulf-1-152	red	41.362	0.3127	18.9058	6.3617	20.081	5.321	0.3842	7.384	0.022	0.0535	0.017	100.2
Gulf-1-153	red	41.586	0.0404	20.8519	4.0759	20.027	4.657	0.6172	8.126	0.022	0.0418	0.01	100.05
Gulf-1-154	red	41.374	0.1432	19.7256	4.9754	20.139	5.223	0.4104	7.756	0.009	0.0395	0	99.794
Gulf-1-155	red	41.373	0.2739	19.0381	5.9624	20.246	5.022	0.3801	7.616	0.01	0.0543	0	99.977
Gulf-1-156	red	41.802	0.266	20.0338	4.4897	20.734	4.755	0.4176	7.322	0	0.044	0.029	99.893
Gulf-1-157	red	41.578	0.2225	20.9347	3.6899	20.263	4.871	0.3868	7.951	0.018	0.0391	0	99.953
Gulf-1-158	red	41.491	0.1802	19.9667	5.1967	20.153	5.249	0.4735	7.386	0	0.0331	0.032	100.16
Gulf-1-159	red	40.933	0.2957	17.6995	7.8317	19.292	5.857	0.3764	7.744	0	0.0549	0	100.08
Gulf-1-160	red	41.394	0.1665	19.9179	5.0355	20.265	5.155	0.4466	7.824	0	0.0413	0.043	100.29
Gulf-1-161	red	42.036	0.1408	20.1755	4.9564	19.998	5.261	0.4299	7.655	0.016	0.0389	0	100.71
Gulf-1-162	red	41.68	0.1853	19.8503	5.173	19.868	5.327	0.3663	7.76	0	0.027	0	100.24
Gulf-1-163	red	41.609	0.3867	19.5668	5.0373	20.096	5.225	0.4313	7.796	0.021	0.055	0	100.22
Gulf-1-164	red	41.273	0.2982	18.9759	6.0937	20.237	5.169	0.3673	7.645	0	0.0727	0.031	100.16
Gulf-1-165	red	41.639	0.1845	19.9662	4.9272	20.239	5.229	0.4707	7.573	0	0.0292	0.007	100.26
Gulf-1-166	red	41.683	0.1267	19.975	4.8085	20.075	5.317	0.4297	8.006	0	0.0116	0	100.43
Gulf-1-167	red	41.303	0.0519	19.0452	6.1279	19.632	5.456	0.4655	8.091	0.038	0.0126	0.01	100.23
Gulf-1-168	red	41.506	0.1253	20.2778	4.6572	20.233	5.274	0.4396	7.933	0.035	0.0089	0	100.49
Gulf-1-169	red	41.144	0.242	19.6128	5.501	19.868	5.146	0.4243	7.662	0.019	0.0567	0.01	99.685
Gulf-1-170	red	41.57	0.1244	19.9217	4.7076	20.048	5.163	0.3974	8.035	0.004	0.0239	0	99.997
Gulf-1-171	red	41.579	0.1841	20.0013	4.8996	20.09	5.195	0.4358	7.667	0	0.0309	0	100.08
Gulf-1-172	red	41.663	0.1353	20.0571	4.6763	19.952	5.29	0.3993	7.984	0	0.0156	0	100.17
Gulf-1-173	red	41.473	0.2822	19.7302	5.0897	20.068	5.239	0.3794	7.764	0	0.0376	0	100.06
Gulf-1-174	red	41.82	0.3011	20.6453	4.0438	20.763	4.772	0.398	7.434	0	0.0501	0.029	100.26
Gulf-1-175	red	41.641	0.1874	22.5758	1.479	19.788	4.169	0.3793	9.768	0	0.0521	0	100.04
Gulf-1-176	red	41.954	0.3666	22.1352	1.7245	20.568	4.215	0.4095	9.158	0	0.0548	0.01	100.59
Gulf-1-177	red	41.96	0.3671	22.2986	1.6611	20.286	4.127	0.353	9.09	0.044	0.0585	0	100.25

Gulf-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Gulf-1-178	red	41.977	0.2092	22.7602	1.3287	19.868	4.166	0.3727	9.869	0.012	0.0564	0	100.62
Gulf-1-179	red	41.789	0.2392	22.378	1.5945	19.545	4.265	0.3683	10.02	0.022	0.0635	0	100.29
Gulf-1-180	red	41.878	0.2176	22.4387	1.4072	19.953	4.199	0.3755	9.836	0.025	0.0455	0	100.37
Gulf-1-181	red	41.603	0.4827	21.7905	1.8619	19.699	4.031	0.5018	10.42	0.01	0.1205	0.007	100.53
Gulf-1-182	red	41.655	0.1956	22.6427	1.3576	19.887	4.049	0.3829	9.681	0.01	0.0406	0	99.902
Gulf-1-183	red	41.689	0.217	22.4156	1.5501	19.802	4.251	0.4206	9.885	0.046	0.0498	0	100.32
Gulf-1-184	red	41.851	0.33	22.0754	1.9385	20.442	4.589	0.4186	8.384	0	0.0551	1E-04	100.08
Gulf-1-185	red	42.274	0.319	22.4738	1.5085	20.573	4.068	0.3804	8.968	0.004	0.0816	0	100.65
Gulf-1-186	red	42.021	0.1911	22.6161	1.4439	19.882	4.116	0.4006	10	0.01	0.035	0.01	100.73
Gulf-1-187	red	42.096	0.2477	22.2744	1.9469	20.578	4.059	0.4114	8.525	0	0.0679	0	100.21
Gulf-1-188	red	41.969	0.4345	21.8879	1.862	20.286	4.361	0.4378	9.193	0.027	0.063	0.007	100.53
Gulf-1-189	red	41.985	0.18	22.7229	1.3132	20.049	4.193	0.3912	9.738	0.028	0.0263	0.005	100.63
Gulf-1-190	red	41.819	0.1871	22.7145	1.4778	19.89	4.26	0.4435	9.653	0.019	0.034	0.016	100.51
Gulf-1-191	red	41.756	0.1923	22.5182	1.4799	19.861	4.216	0.3914	9.674	0	0.027	8E-04	100.12
Gulf-1-192	red	41.896	0.4063	22.0444	1.8152	20.399	4.237	0.373	8.997	0.018	0.0564	0	100.24
Gulf-1-193	red	41.762	0.2642	22.1679	1.5234	19.693	4.234	0.3968	9.98	0.028	0.0656	0	100.11
Gulf-1-194	red	41.71	0.189	22.905	1.339	19.969	4.21	0.4011	9.882	0	0.0488	0.006	100.66
Gulf-1-195	red	41.721	0.1463	22.3638	1.6522	20.408	4.191	0.3648	8.769	0.033	0.041	0	99.691
Gulf-1-196	red	41.886	0.2725	21.4226	2.7552	20.39	4.827	0.3858	8.447	0	0.0426	0.012	100.44
Gulf-1-197	red	41.449	0.6376	21.4897	1.9373	19.617	4.079	0.4357	10.34	0.013	0.1247	0	100.13
Gulf-1-198	red	41.745	0.2741	22.3371	1.5273	19.598	4.394	0.4138	9.827	0	0.0498	0	100.17
Gulf-1-199	red	41.717	0.1955	22.2938	1.4087	19.854	4.135	0.4336	9.946	0	0.0364	0.027	100.05
Gulf-1-200	red	41.902	0.3731	22.1368	1.5344	20.318	4.123	0.3397	9.123	0	0.0705	0	99.92
Gulf-1-201	red	42.051	0.4044	21.6862	2.1641	20.713	4.358	0.3469	8.443	0.012	0.0605	0	100.24
Gulf-1-202	red	41.772	0.2083	22.7238	1.4014	19.925	4.221	0.3588	9.828	0.003	0.0408	0	100.48
Gulf-1-203	red	41.667	0.1734	22.4637	1.4168	19.879	4.149	0.3843	9.785	0.004	0.0489	0.006	99.977
Gulf-1-204	red	41.977	0.3278	22.4032	1.4886	20.545	4.087	0.3562	9.25	0.007	0.0582	0	100.5
Gulf-1-205	red	41.935	0.5507	21.8118	1.8981	19.974	4.476	0.4308	9.386	0	0.1134	0.019	100.59
Gulf-1-206	red	41.737	0.2472	20.5349	3.7351	20.142	4.787	0.3589	8.204	0.016	0.037	0	99.798
Gulf-1-207	red	41.787	0.2016	22.6838	1.4477	19.971	4.196	0.3206	9.95	0	0.0377	0	100.59
Gulf-1-208	red	41.718	0.2694	22.2811	1.6373	19.702	4.256	0.3771	9.828	0	0.0386	0.012	100.12
Gulf-1-209	red	41.658	0.3665	21.9995	1.6733	20.311	4.196	0.3775	9.005	0.01	0.0746	0.031	99.703
Gulf-1-210	red	41.673	0.0348	21.0668	3.7979	20.146	4.462	0.6252	8.237	0.015	0.0537	0.035	100.15
Gulf-1-211	red	42.008	0.1703	22.4389	1.6374	20.341	4.248	0.4241	8.924	0.047	0.0506	0	100.29
Gulf-1-212	red	41.544	0.1809	19.9087	4.9712	20.43	4.973	0.3951	7.585	0.019	0.0458	0	100.05
Gulf-1-213	red	41.711	0.2618	20.9805	3.5016	20.322	4.886	0.4957	8.09	0.047	0.0501	0.033	100.38
Gulf-1-214	red	41.41	0.1663	19.8715	5.0601	19.996	5.263	0.3711	7.717	0	0.0305	0.02	99.905
Gulf-1-215	red	41.79	0.2031	20.1959	4.9111	20.357	4.96	0.4744	7.587	0	0.0478	0.023	100.55
Gulf-1-216	red	41.954	0.2582	20.5543	3.9625	20.904	4.768	0.3732	7.64	0.006	0.0385	0.012	100.47
Gulf-1-217	red	41.582	0.1683	20.0174	4.6954	20.31	5.124	0.4375	7.762	0.035	0.0288	0	100.16
Gulf-1-218	red	41.472	0.1805	19.5648	5.3986	20.02	5.219	0.3699	7.322	0.038	0.0295	0.006	99.621
Gulf-1-219	red	41.43	0.1715	19.7691	4.9462	20.073	5.251	0.4078	7.707	0	0.0291	0	99.784
Gulf-1-220	red	41.823	0.197	19.5455	5.5342	20.26	5.114	0.5117	7.857	0	0.0347	0.008	100.88
Gulf-1-221	red	41.579	0.1998	19.8365	5.1353	20.164	5.276	0.4418	7.732	0.009	0.0187	0.002	100.39
Gulf-1-222	red	41.366	0.2348	18.8904	6.4512	19.901	5.564	0.3973	7.635	0.002	0.0406	0	100.48
Gulf-1-223	red	41.857	0.2431	20.9914	3.8384	20.521	4.72	0.4338	7.615	0	0.0504	0.014	100.28
Gulf-1-224	red	41.083	0.1513	18.3917	6.8801	19.137	6.053	0.4662	7.898	0.012	0.0316	0	100.1
Gulf-1-236	orange	40.856	0.3132	22.7865	0.0419	15.765	5.939	0.3772	13.92	0	0.0581	0	100.05
Gulf-1-239	orange	41.132	0.3326	22.7308	0.07	15.821	5.958	0.3365	13.95	0	0.0628	0	100.39
Gulf-1-241	orange	40.831	0.2854	22.9105	0.0569	15.903	5.949	0.3433	13.88	0.002	0.0764	0.019	100.26
Gulf-1-243	orange	39.095	0.051	21.9072	0.0502	7.8796	9.167	0.43	22.05	0	0.0205	0	100.65
Gulf-1-244	orange	39.012	0.069	21.96	0.0251	7.7179	9.066	0.4062	22.04	0	0.0274	0	100.33
Gulf-1-245	orange	39.295	0.0695	21.8337	0.0532	7.7187	9.117	0.4259	22.01	0	0.026	0.011	100.56
Gulf-1-246	orange	41.053	0.3317	22.954	0.0382	15.918	5.964	0.3084	14.2	0	0.0682	0	100.84
Gulf-1-249	orange	40.891	0.3163	22.5889	0.0459	15.768	5.989	0.3169	13.87	0	0.0727	0	99.856

Gulf-1 Chromite

Sample	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Gulf-1-1	0.0379	0.0633	0	0	6.819	55.6677	0.22	7.4753	0.028	0.3782	28.204	0.108	0.161	99.162	7.602	21.36	99.923
Gulf-1-2	0.0267	0.022	0	0	12.053	53.3914	0.38	9.4128	0.068	0.6382	23.144	0.084	0.284	99.504	4.518	19.08	99.956
Gulf-1-4	0.0133	0	0	0	14.028	52.4536	0.3	10.881	0.068	0.2667	21.053	0.054	0.12	99.237	4.013	17.44	99.639
Gulf-1-5	0.0142	1.0432	0.0239	0.0106	3.331	56.6472	0.17	7.4474	0.051	0.4905	29.496	0	0.152	98.877	8.821	21.56	99.761
Gulf-1-7	0.0107	0.7137	0.0178	0	4.733	50.4262	0.39	8.1464	0.052	0.5353	33.364	0.137	0.181	98.757	14.254	20.54	100.19
Gulf-1-9	0.0092	0.052	0.0103	0	12.904	53.1698	0.2	10.624	0.039	0.3484	22.557	0.133	0.162	100.21	5.371	17.72	100.75
Gulf-1-12	0.0322	0.133	0	0.0209	10.349	53.8767	0.31	9.8638	0.014	0.2713	24.338	0.112	0.135	99.456	6.282	18.69	100.09
Gulf-1-14	0.0324	3.9096	0.0087	0	1.629	49.2851	0.53	7.2788	3E-04	0.7499	34.981	0.095	0.238	98.738	11.839	24.33	99.924
Gulf-1-22	0.0228	0	0	0.0279	12.135	55.4092	0.37	11.053	0.022	0.1905	20.574	0.11	0.226	100.14	3.665	17.28	100.51
Gulf-1-27	0.0325	0.0152	0.0257	0	11.897	54.7828	0.21	10.703	0.055	0.3491	20.99	0.068	0.213	99.342	4.245	17.17	99.768
Gulf-1-34	0.0184	2.5262	0.0151	0.0172	1.744	57.0581	0.27	8.2998	0.044	0.36	29.017	0.138	0.066	99.573	8.031	21.79	100.38
Gulf-1-37	0.0304	0	0.0026	0.0081	9.351	56.4337	0.31	10.14	0.032	0.5147	22.699	0.099	0.186	99.806	5.469	17.78	100.35
Gulf-1-39	0.0492	1.338	0.0253	0.03	4.916	60.6973	0.22	11.552	0.048	0.3576	20.067	0.155	0.124	99.58	4.422	16.09	100.02
Gulf-1-41	0.03	0.0695	0.0267	0	7.699	56.7276	0.31	9.3851	0	0.3607	24.597	0.143	0.193	99.541	6.410	18.83	100.18
Gulf-1-42	0.0345	1.304	0	0.0099	3.475	58.7607	0.26	8.3417	0.062	0.2868	26.741	0.149	0.11	99.535	6.547	20.85	100.19
Gulf-1-52	0.0287	4.5024	0	0.0172	0.290	36.1073	0.91	4.9812	0.038	0.5805	50.049	0.225	0.133	97.861	23.652	28.77	100.23
Gulf-1-57	0.0028	0.3678	0	0	8.183	47.9544	0.34	7.5373	0.052	0.5422	33.489	0.111	0.135	98.713	13.129	21.67	100.03

Gulf-1 Ilmenite

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
Gulf-1-1	core	0.028	51.924	0.279	0.050	0.003	2.825	0.25	10.745	0.043	0.4144	32.355	0.122	0	99.039	5.16	27.72	99.556	56.304	38.945	4.751	100
Gulf-1-2	core	0.0197	54.006	0.076	0.041	0.172	2.314	0.16	11.916	0	0.3374	30.53	0.139	0.077	99.787	3.73	27.17	100.16	54.213	42.407	3.379	100
Gulf-1-3	core	0.0219	53.665	0.051	0.081	0.394	3.184	0.07	12.403	0.051	0.3035	29.056	0.172	0.045	99.497	3.59	25.82	99.857	52.042	44.639	3.319	100
Gulf-1-4	core	0.043	54.056	0.067	0.000	0.302	2.947	0	12.607	0	0.2616	28.669	0.178	0	99.13	3.15	25.83	99.446	51.958	45.188	2.854	100
Gulf-1-5	core	0.0307	53.889	0.078	0.032	0.307	2.973	0	12.471	0	0.2383	29.587	0.119	0	99.724	3.96	26.02	100.12	51.986	44.430	3.583	100
Gulf-1-6	core	0.0112	53.825	0.087	0.024	0.163	2.631	0.08	11.363	0	0.3852	30.532	0.183	0	99.284	3.00	27.84	99.584	56.289	40.968	2.743	100
Gulf-1-7	core	0.0092	53.814	0.000	0.000	0.293	2.524	0.1	11.922	0.015	0.3686	30.454	0.141	0.127	99.77	4.20	26.67	100.19	53.553	42.653	3.794	100
Gulf-1-8	core	0.0244	54.757	0.073	0.004	0.306	2.895	0	12.341	0.035	0.302	28.819	0.169	0	99.727	2.19	26.85	99.947	53.876	44.140	1.984	100
Gulf-1-9	core	0.0176	53.655	0.053	0.052	0.349	3.225	0.09	12.606	0.022	0.4141	28.817	0.134	0	99.436	3.73	25.46	99.809	51.281	45.303	3.417	100
Gulf-1-10	core	0.0126	52.295	0.172	0.102	0.011	3.957	0.09	11.177	0.01	0.4072	30.996	0.177	0.04	99.446	4.57	26.89	99.903	54.934	40.791	4.275	100
Gulf-1-11	core	0.0087	53.47	0.130	0.007	0.216	2.331	0	11.169	0.027	0.3649	31.376	0.188	0	99.288	4.03	27.75	99.691	56.091	40.238	3.670	100
Gulf-1-12	core	0.0438	53.742	0.022	0.004	0.321	2.843	0	12.417	0	0.2854	28.903	0.171	0.066	98.818	3.48	25.77	99.167	52.093	44.735	3.172	100
Gulf-1-13	core	0.0183	53.871	0.105	0.000	0.319	2.451	0.02	11.768	0.014	0.3353	30.04	0.096	0	99.037	3.17	27.19	99.354	54.838	42.290	2.872	100
Gulf-1-14	core	0.0189	53.229	0.120	0.034	0.051	2.993	0	11.79	0.002	0.2943	30.229	0.187	0.109	99.055	4.20	26.45	99.476	53.570	42.582	3.847	100
Gulf-1-15	core	0.0312	54.057	0.130	0.025	0.145	2.873	0	12.098	0	0.3063	29.768	0.18	0	99.613	3.34	26.76	99.947	53.692	43.276	3.032	100
Gulf-1-16	core	0.0198	53.717	0.105	0.034	0.120	2.267	0	11.509	0	0.327	30.902	0.167	0.125	99.292	3.94	27.35	99.687	55.078	41.326	3.596	100
Gulf-1-17	core	0.0051	52.047	0.160	0.052	0.089	5.097	0	11.791	0.025	0.3848	29.666	0.145	0	99.461	4.69	25.44	99.932	52.338	43.278	4.384	100
Gulf-1-18	core	0.019	52.503	0.126	0.000	0.057	4.934	0.14	12.067	0	0.3711	29.208	0.167	0	99.592	4.06	25.55	99.999	52.274	43.989	3.738	100
Gulf-1-19	core	0.0131	52.556	0.171	0.029	0.062	3.892	0.08	11.768	0.011	0.3087	30.356	0.174	0.132	99.553	4.81	26.03	100.03	52.912	42.664	4.424	100
Gulf-1-20	core	0.0267	54.349	0.095	0.003	0.248	2.521	0	11.609	0.022	0.3191	30.569	0.16	0.021	99.944	3.08	27.8	100.25	55.737	41.483	2.780	100
Gulf-1-21	core	0.0329	53.693	0.058	0.021	0.308	3.117	0.11	12.568	0.03	0.2671	29.056	0.276	0.17	99.707	4.00	25.45	100.11	51.244	45.113	3.642	100
Gulf-1-22	core	0.0079	53.89	0.066	0.005	0.331	2.834	0.26	12.404	0.016	0.2677	28.889	0.186	0	99.155	2.79	26.38	99.434	53.035	44.440	2.524	100
Gulf-1-23	core	0.0014	52.075	0.153	0.004	0.051	4.663	0.15	11.335	0	0.4374	30.473	0.199	0.061	99.602	4.58	26.35	100.06	54.199	41.555	4.245	100
Gulf-1-24	core	0.0281	53.935	0.069	0.000	0.166	2.477	0	12.063	0.004	0.3329	29.898	0.23	0.016	99.219	3.74	26.54	99.593	53.379	43.239	3.381	100
Gulf-1-25	core	0.0335	53.806	0.129	0.000	0.199	2.614	0	11.313	0.019	0.4095	31.055	0.113	0	99.691	3.56	27.86	100.05	56.144	40.632	3.224	100
Gulf-1-26	core	0.0081	54.066	0.024	0.000	0.291	2.843	0	12.54	0.038	0.3368	29.284	0.173	0.032	99.635	3.96	25.72	100.03	51.603	44.827	3.570	100
Gulf-1-27	core	0.0331	54.097	0.072	0.030	0.306	2.922	0	12.412	0.015	0.2993	29.033	0.171	0	99.391	3.17	26.18	99.709	52.620	44.490	2.890	100
Gulf-1-28	core	0.0157	53.867	0.056	0.057	0.262	2.387	0.06	12.257	0.015	0.2873	30.043	0.145	0.048	99.497	4.14	26.32	99.912	52.559	43.680	3.761	100
Gulf-1-29	core	0.0312	53.525	0.000	0.051	0.172	2.273	0.08	11.304	0	0.2578	31.546	0.115	0.045	99.399	4.19	27.77	99.819	55.717	40.461	3.822	100
Gulf-1-30	core	0	54.069	0.118	0.000	0.130	2.514	0	11.366	0.017	0.2934	31.282	0.089	0.101	99.979	3.65	28	100.34	56.121	40.592	3.287	100
Gulf-1-31	core	0.012	54.129	0.105	0.000	0.219	2.258	0	12.061	0.007	0.3763	30.314	0.073	0.05	99.607	3.90	26.81	99.997	53.554	42.941	3.505	100
Gulf-1-32	core	0.0011	52.745	0.152	0.000	0.053	4.789	0.24	12.086	0	0.4491	28.812	0.199	0.069	99.595	3.42	25.73	99.938	52.722	44.124	3.154	100
Gulf-1-33	core	0.0085	53.955	0.060	0.000	0.365	2.906	0.09	12.595	0	0.3492	29.105	0.154	0.056	99.643	3.74	25.74	100.02	51.617	45.009	3.374	100
Gulf-1-34	core	0	53.73	0.082	0.000	0.305	3.212	0	12.297	0	0.2442	29.452	0.161	0.096	99.579	3.83	26.01	99.963	52.386	44.143	3.471	100
Gulf-1-35	core	0.024	52.67	0.174	0.000	0.121	5.511	0	12.219	0	0.3779	27.84	0.204	0	99.141	2.90	25.23	99.432	52.223	45.074	2.704	100
Gulf-1-36	core	0.0203	52.437	0.152	0.019	0.059	4.143	0.13	11.352	0.031	0.3764	30.385	0.209	0.024	99.338	4.11	26.69	99.749	54.710	41.487	3.803	100
Gulf-1-37	core	0.0191	53.93	0.047	0.040	0.366	3.040	0	12.294	0.072	0.2822	28.873	0.227	0	99.188	3.09	26.09	99.498	52.792	44.367	2.841	100
Gulf-1-38	core	0.011	51.746	0.203	0.060	0.000	3.282	0.18	10.199	0	0.4979	33.008	0.004	0.069	99.259	5.18	28.35	99.778	57.967	37.219	4.814	100
Gulf-1-39	core	0.0185	54.22	0.086	0.012	0.221	2.764	0	12.411	0	0.2635	29.421	0.159	0	99.576	3.42	26.34	99.919	52.675	44.238	3.087	100
Gulf-1-40	core	0.0259	53.574	0.045	0.023	0.400	3.202	0	12.481	0	0.2279	29.206	0.236	0.045	99.465	4.08	25.53	99.874	51.443	44.839	3.718	100
Gulf-1-41	core	0.0127	53.887	0.083	0.036	0.335	3.059	0	12.424	0	0.3486	29.268	0.169	0.04	99.663	3.75	25.9	100.04	52.047	44.538	3.415	100
Gulf-1-42	core	0.0357	53.936	0.089	0.032	0.300	2.759	0	12.243	0	0.265	29.673	0.159	0.053	99.545	3.66	26.38	99.912	52.890	43.781	3.328	100
Gulf-1-43	core	0.0218	53.645	0.017	0.000	0.403	3.401	0	12.353	0.013	0.3966	28.635	0.166	0.119	99.17	3.38	25.59	99.509	52.092	44.809	3.099	100
Gulf-1-44	core	0.0186	54.05	0.047	0.000	0.318	3.170	0.02	12.389	0.042	0.3566	28.892	0.196	0	99.498	3.18	26.03	99.817	52.544	44.567	2.889	100
Gulf-1-45	core	0.023	53.607	0.051	0.000	0.358	3.588	0.23	12.65	0.054	0.2695	28.363	0.196	0	99.389	3.09	25.58	99.699	51.664	45.526	2.809	100
Gulf-1-46	core	0.0167	53.929	0.098	0.000	0.308	2.724	0.14	12.493	0	0.2149	29.348	0.248	0.08	99.598	3.66	26.05	99.964	52.147	44.557	3.296	100
Gulf-1-47	core	0.0143	53.386	0.097	0.042	0.113	2.345	0.08	11.081	6E-04	0.2881	31.815	0.124	0	99.385	4.10	28.12	99.796	56.532	39.728	3.740	100
Gulf-1-48	core	0.0116	52.046	0.182	0.073	0.038	3.019	0.12	10.401	0.057	0.3291	32.511	0.172	0.066	99.025	4.92	28.08	99.518	57.444	37.974	4.582	100
Gulf-1-49	core	0.0353	53.431	0.089	0.034	0.262	2.598	0	11.472	0.045	0.2488	30.965	0.178	0	99.357	4.09	27.29	99.767	55.015	41.251	3.734	100
Gulf-1-50	core	0.0311	53.364	0.098	0.017	0.200	2.810	0.06	11.65	0	0.2978	30.484	0.148	0.05	99.21	3.89	26.99	99.599	54.509	41.948	3.544	100
Gulf-1-51	core	0.0121	53.801	0.105	0.000	0.230	2.446	0	11.741	0.025	0.3263	30.814	0.12	0.021	99.642	4.14	27.09	100.06	54.316	41.950	3.734	100
Gulf-1-52	core	0.0258	54.339	0.009	0.017	0.343	3.008	0	12.841	0.034	0.3444	28.478	0.192	0	99.631	3.36	25.46	99.968	51.049	45.909	3.042	100
Gulf-1-53	core	0.0183	54.03	0.079	0.000	0.285	3.021	0.07	12.415	0.046	0.3035	29.264	0.144	0.037	99.713	3.47	26.14	100.06	52.469	44.400	3.131	100
Gulf-1-54	core	0.0104	53.828	0.094	0.026	0.222	2.371	0.16	11.896	0.033	0.2868	30.318	0.199	0.048	99.493	3.66	27.02	99.859	54.166	42.515	3.320	100
Gulf-1-55	core	0.0332	53.706	0.062	0.000	0.338	3.121	0	12.434	0.035	0.286	29.083	0.189	0	99.287	3.73	25.73	99.661	51.911	44.705	3.384	100
Gulf-1-56	core	0.027	54.61	0.035	0.000	0.334	2.908	0	12.39	0.002	0.2755	29.066	0.142	0.056	99.845	2.70	26.63	100.12	53.342	44.221	2.437	100
Gulf-1-57	core	0.0261	54.161	0.079	0.088	0.257	2.698	0.02	12.46	0	0.2312	29.53	0.145	0	99.694	3.55	26.33	100.05	52.443	44.311	3.246	100
Gulf-1-58	core	0.0092	53.771	0.057	0.023	0.132	2.420	0	11.323	0.019	0.496	31.021	0.159	0.082	99.511	3.90	27.51	99.902	55.624	40.814	3.562	100
Gulf-1-59	core	0.0261	53.908	0.045	0.000	0.443	3.250	0	12.605	0.052	0.2676	28.95	0.154	0.058	99.758	3.77	25.56	100.14	51.408	45.180	3.412	100
Gulf-1-60	core	0.0188	52.116	0.132	0.027	0.127	5.285	0.2	12.185	0	0.4981	28.509	0.182	0.011	99.29	3.94	24.96	99.685	51.493	44.827	3.680	100
Gulf-1-61	core	0.0007	53.443	0.119	0.000	0.067	2.376	0	11.013	0.056	0.3365	31.719	0.103	0	99.232	4.07	28.05	99.64	56.660	39.637	3.702	100
Gulf-1-62	core	0.0143	52.973	0.136	0.044	0.129	4.346	0	12.372	0.02	0.277	28.999	0.246	0	99.555	4.18	25.24	99.974	51.292	44.855	3.853	100
Gulf-1-63	core	0.034	53.581	0.103	0.042	0.162	2.527	0	11.28	0	0.4419	31.502	0.16	0	99.833	4.27	27.66	100.26	55.635	40.470	3.895	100
Gulf-1-64	core	0.0507	53.758	0.065	0.001	0.336	3.012	0	12.486	0.009	0.303	29.027	0.168	0.08	99.293	3.73	25.67	99.666	51.760	44.859	3.381	100
Gulf-1-65	core	0.0082	53.964	0.122	0.000	0.383	3.400	0	12.71	0.04	0.2155	28.785	0.14	0	99.766	3.52	25.62	100.12	51.386	45.435	3.180	100
Gulf-1-66	core	0.0269	54.436	0.063	0.008	0.276	2.676	0	12.285	0.026	0.2528	29.365	0.199	0.008	99.622	2.99	26.68	99.921	53.439	43.863	2.698	100
Gulf-1-67	core	0.0055	53.431	0.091	0.000	0.142	2.490	0.06	11.374	0	0.302	31.085	0.15	0.072	99.201	4.02	27.46	99.604	55.436	40.911	3.653	100
Gulf-1-68	core	0.0225	53.709	0.083	0.021	0.427	2.943	0.14	12.512	0.03	0.3067	28.415	0.21	0.024	98.841	2.93	25.78	99.134	52.177	45.145	2.679	100
Gulf-1-69	core	0.0152	54.176	0.076	0.000	0.176	2.590	0.01	11.519	0.028	0.3374	30.508	0.141	0.021	99.598	3.04	27.77	99.902	55.918	41.329	2.753	100
Gulf-1-70	core	0.0205	53.982	0.076	0.000	0.309	2.560	0.12	12.531	0.02	0.2698	29.413	0.147	0	99.448	3.72	26.07	99.82	52.062	44.598	3.339	100
Gulf-1-71	core	0.0322	53.302	0.062	0.033	0.155	2.594	0.13	11.478	0	0.3309	31.322	0.115	0	99.555	4.40	27.36	99.995	54.922	41.083	3.996	100
Gulf-1-72	core	0	52.094	0.098	0.012	0.082	5.168	0.21	11.607	0.02	0.3302	29.423	0.176	0	99.221	3.72	26.08	99.593	53.832	42.707	3.461	100
Gulf-1-73	core	0.0136	53.806	0.111	0.000	0.324	3.084	0	12.43	0	0.2697	28.935	0.18	0	99.153	3.35	25.92	99.488	52.288	44.676	3.036	100
Gulf-1-74	core	0.0242	51.296	0.136	0.049	0.012	2.455	0	9.3986	0	0.3312	35.444	0.05	0	99.196	6.94	29.2	99.891	59.466	34.141	6.393	100
Gulf-1-75	rim	0.0332	53.655	0.070	0.028	0.289	2.369	0.25	12.181	0.034	0.3268	30.72	0.128	0.027	100.11	4.63	26.55	100.57	52.715	43.125	4.160	100
Gulf-1-76	core	0.0162	53.887	0.086	0.031	0.209	2.451	0	11.978	0	0.2892	29.725	0.084	0	98.755	3.17	26.87	99.073	54.098	43.006	2.895	100
Gulf-1-77	rim	0.0115	51.645	0.224	0.030	0.050	3.700	0	9.8363	0	0.2622	34.292	0.096	0.013	100.16	6.08	28.82	100.77	58.687	35.718	5.595	100
Gulf-1-78	core	0.0079	50.752	0.205	0.023	0.000	3.745	0.07	9.7367	0.028	0.5085	33.918	0.177	0.095	99.267	6.75	27.84	99.944	57.702	35.981	6.317	100
Gulf-1-79	rim	0.0165	52.212	0.133	0.000	0.192	4.856	0	11.774	0	0.4327	29.774	0.201	0.037	99.627	4.78	25.47	100.11	52.404	43.168	4.429	100
Gulf-1-80	core	0	53.49	0.171	0.000	0.077	4.956	0	11.486	6E-04	0.39	29.804	0.126	0.04	100.54	2.82	27.27	100.82	55.640	41.770	2.590	100

Gulf-1 Ilmenite

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
Gulf-1-81	rim	0.0185	53.974	0.110	0.016	0.100	2.601	0	11.591	0.031	0.2789	30.727	0.25	0.082	99.779	3.70	27.4	100.15	55.093	41.549	3.358	100
Gulf-1-82	core	0.0407	53.489	0.078	0.000	0.159	2.459	0.04	11.412	0.008	0.4922	30.799	0.209	0.053	99.24	4.00	27.2	99.64	55.137	41.219	3.645	100
Gulf-1-83	rim	0.004	53.857	0.125	0.034	0.164	2.282	0	11.495	0.015	0.1977	31.452	0.209	0	99.835	4.18	27.69	100.25	55.286	40.932	3.782	100
Gulf-1-84	core	0	53.348	0.075	0.041	0.181	2.334	0.1	11.814	0.031	0.2155	30.925	0.042	0.088	99.192	4.57	26.81	99.65	53.669	42.183	4.148	100
Gulf-1-3*	core	0.042	53.563	0.021	0.003	0.240	3.097	0.14	12.607	0.041	0.2942	28.655	0.175	0.128	99.007	3.66	25.37	99.373	51.266	45.407	3.326	100
Gulf-1-6*	core	0.0245	53.599	0.097	0.039	0.156	2.819	0.07	11.937	0	0.4305	29.87	0.183	0	99.225	3.65	26.58	99.591	53.670	42.985	3.345	100
Gulf-1-8*	core	0.0119	53.279	0.069	0.000	0.157	2.577	0.05	11.417	0.024	0.29	31.357	0.097	0.042	99.372	4.53	27.28	99.826	54.928	40.966	4.106	100
Gulf-1-10*	core	0.0021	53.575	0.010	0.001	0.274	3.319	0	12.423	0.054	0.3448	29.093	0.148	0.008	99.252	4.01	25.49	99.653	51.561	44.789	3.650	100
Gulf-1-11*	core	0	53.497	0.105	0.011	0.081	2.440	0.1	11.564	0	0.3656	31.055	0.141	0	99.359	4.20	27.27	99.78	54.789	41.405	3.806	100
Gulf-1-13*	core	0.007	51.127	0.257	0.046	0.000	3.547	0.02	9.9087	0.015	0.4208	33.555	0	0	98.904	5.93	28.22	99.498	58.090	36.384	5.526	100
Gulf-1-15*	core	0.0097	54.081	0.087	0.000	0.291	2.471	0.15	12.158	0	0.313	29.644	0.119	0	99.324	3.08	26.88	99.632	53.833	43.396	2.771	100
Gulf-1-16*	core	0.02	53.285	0.063	0.000	0.348	2.318	0.06	11.556	0	0.4005	30.969	0.114	0.072	99.204	4.48	26.93	99.654	54.364	41.564	4.072	100
Gulf-1-17*	core	0.0015	54.139	0.074	0.021	0.376	2.949	0.05	12.66	0	0.3304	28.571	0.185	0.013	99.37	3.11	25.78	99.681	51.808	45.367	2.824	100
Gulf-1-18*	core	0.017	53.469	0.118	0.000	0.266	2.448	0.09	11.991	0.067	0.4284	30.48	0.07	0	99.443	4.51	26.42	99.895	53.030	42.893	4.077	100
Gulf-1-20*	core	0.0195	53.95	0.102	0.000	0.214	2.464	0	12.289	0.003	0.3112	29.999	0.156	0	99.507	4.13	26.28	99.921	52.519	43.765	3.716	100
Gulf-1-21*	core	0.002	52.658	0.227	0.037	0.038	4.127	0.22	11.605	0	0.4123	29.951	0.174	0.061	99.512	3.66	26.65	99.879	54.378	42.230	3.392	100
Gulf-1-23*	core	0.0341	54.206	0.045	0.039	0.268	2.613	0	12.592	0	0.294	29.119	0.126	0.013	99.348	3.48	25.99	99.696	51.950	44.895	3.155	100
Gulf-1-24*	core	0.0216	53.65	0.123	0.021	0.140	2.483	0	11.725	0.039	0.2904	30.556	0.157	0.027	99.231	3.95	27	99.626	54.344	42.068	3.589	100
Gulf-1-25*	core	0.0144	54.305	0.040	0.023	0.299	2.574	0.05	12.443	0	0.4131	29.206	0.208	0.019	99.592	3.36	26.18	99.929	52.480	44.471	3.049	100
Gulf-1-26*	core	0.0283	52.201	0.133	0.025	0.114	5.043	0.08	11.964	0	0.404	29.26	0.185	0.069	99.505	4.41	25.29	99.947	52.023	43.878	4.098	100
Gulf-1-28*	core	0.0363	53.732	0.063	0.000	0.228	2.567	0.04	11.703	0.044	0.3154	30.236	0.208	0.003	99.175	3.53	27.06	99.529	54.666	42.127	3.207	100
Gulf-1-29*	core	0.0031	52.379	0.113	0.067	0.023	5.232	0.23	12.115	0	0.4557	28.63	0.199	0	99.446	3.60	25.39	99.806	52.184	44.440	3.376	100
Gulf-1-30*	core	0.0164	53.808	0.077	0.000	0.337	2.579	0.1	12.331	0	0.3611	29.639	0.175	0	99.424	3.89	26.14	99.813	52.424	44.068	3.508	100
Gulf-1-31*	core	0.0193	52.173	0.194	0.008	0.030	5.531	0.41	12.589	0.012	0.4224	27.702	0.242	0.101	99.433	3.44	24.6	99.778	50.630	46.176	3.194	100
Gulf-1-32*	core	0.025	53.538	0.098	0.056	0.207	2.452	0	11.438	0.028	0.3719	31.268	0.155	0.008	99.644	4.34	27.37	100.08	55.009	41.026	3.964	100
Gulf-1-33*	core	0.0255	54.06	0.055	0.000	0.415	3.166	0	12.305	0.002	0.2875	29.451	0.156	0.005	99.927	3.47	26.33	100.27	52.848	44.016	3.136	100
Gulf-1-35*	core	0.0295	53.621	0.082	0.035	0.160	2.928	0	11.965	0	0.2477	29.472	0.157	0.053	98.75	3.20	26.59	99.071	53.850	43.211	2.939	100
Gulf-1-36*	core	0.0251	53.73	0.057	0.032	0.392	3.416	0	12.632	0.051	0.2947	29.042	0.231	0.064	99.967	4.18	25.28	100.39	50.859	45.330	3.812	100
Gulf-1-38*	core	0.0079	53.304	0.232	0.021	0.121	3.619	0	12.217	0	0.3052	29.185	0.231	0.005	99.248	3.65	25.9	99.613	52.506	44.152	3.342	100
Gulf-1-40*	core	0.0072	51.522	0.183	0.029	0.117	3.081	0	9.9898	0.017	0.2399	33.713	0.049	0.146	99.094	6.00	28.31	99.695	57.976	36.474	5.549	100
Gulf-1-43*	core	0.0022	53.661	0.111	0.030	0.159	4.823	0	12.59	0.023	0.241	28.121	0.236	0.112	100.11	3.07	25.36	100.42	51.542	45.631	2.826	100
Gulf-1-44*	core	0.0008	50.748	0.207	0.073	0.011	3.353	0	9.3792	0	0.4855	34.445	0.099	0.135	98.935	6.62	28.49	99.599	59.058	34.707	6.235	100
Gulf-1-45*	core	0.0069	53.316	0.107	0.055	0.151	2.420	0.04	11.183	0.014	0.4207	31.293	0.079	0.016	99.101	3.99	27.71	99.5	56.002	40.332	3.666	100
Gulf-1-46*	core	0.0182	52.642	0.130	0.038	0.113	4.144	0.05	12.428	0	0.2946	29.263	0.161	0	99.282	4.73	25.01	99.756	50.704	44.950	4.346	100
Gulf-1-47*	core	0.0157	53.274	0.076	0.060	0.339	2.609	0.2	11.914	0	0.3113	30.062	0.173	0	99.035	3.79	26.65	99.415	53.686	42.832	3.481	100
Gulf-1-48*	core	0.0023	52.593	0.149	0.041	0.117	5.750	0	12.397	0.013	0.401	27.816	0.22	0.008	99.507	3.40	24.75	99.848	51.125	45.680	3.195	100
Gulf-1-49*	core	0	53.115	0.041	0.000	0.288	2.926	0.08	11.73	0.025	0.2776	30.508	0.21	0	99.199	4.44	26.52	99.643	53.662	42.300	4.038	100
Gulf-1-50*	core	0.0092	53.793	0.094	0.027	0.138	2.460	0.18	11.646	0	0.429	30.134	0.142	0.045	99.096	3.01	27.43	99.398	55.343	41.905	2.753	100
Gulf-1-51*	core	0.035	51.61	0.154	0.035	0.102	4.999	0.18	11.686	0.021	0.4221	30.044	0.185	0.106	99.579	5.19	25.37	100.1	52.248	42.918	4.834	100
Gulf-1-53*	core	0	53.816	0.050	0.017	0.153	2.658	0.05	11.647	0	0.4141	30.155	0.138	0.093	99.191	3.34	27.15	99.526	54.933	42.013	3.054	100
Gulf-1-54*	core	0.0118	53.675	0.068	0.000	0.383	3.270	0	12.411	0.037	0.2659	29.068	0.098	0.085	99.372	3.68	25.75	99.741	51.998	44.656	3.346	100
Gulf-1-55*	core	0.0272	53.412	0.092	0.000	0.192	2.462	0.28	11.682	0	0.301	30.594	0.145	0	99.187	3.61	27.34	99.549	54.923	41.813	3.264	100
Gulf-1-56*	core	0.023	54.513	0.098	0.037	0.177	2.562	0	12.006	0.024	0.37	29.894	0.182	0.019	99.903	3.01	27.19	100.2	54.411	42.854	2.735	100
Gulf-1-58*	core	0.0129	53.475	0.046	0.031	0.178	2.326	0	11.637	0.046	0.2902	31.097	0.255	0	99.394	4.73	26.84	99.868	53.964	41.730	4.306	100
Gulf-1-59*	core	0.0145	51.596	0.250	0.000	0.045	2.708	0.19	9.9588	0.007	0.2931	33.916	0.097	0	99.076	5.64	28.84	99.641	58.707	36.126	5.167	100
Gulf-1-60*	core	0.0236	53.913	0.125	0.000	0.159	2.395	0.06	11.828	0.056	0.3272	30.823	0.121	0.119	99.951	4.21	27.04	100.37	54.067	42.149	3.784	100

* These ilmenite grains were mixed in with the Gulf-1 chromite analyses

Gulf-1 Pyroxene

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Gulf-1-1	54.834	0.4789	3.33143	2.1224	14.581	17.4	0.1167	3.9	0	3.453	0	100.22
Gulf-1-2	54.771	0.3948	2.41225	1.9959	15.233	18.23	0.0808	3.608	0.035	2.916	0	99.682
Gulf-1-3	54.803	0.3996	2.78732	2.055	14.919	18.3	0.0908	3.625	0	3.1266	0.017	100.12
Gulf-1-4	54.862	0.4423	2.95943	2.1994	14.572	17.87	0.1091	3.747	0.016	3.1995	0	99.974
Gulf-1-5	55.195	0.4299	2.4671	2.0843	15.274	18.37	0.054	3.658	0	2.9182	0.043	100.49
Gulf-1-6	54.863	0.3535	2.49915	1.9916	15.265	18.44	0.122	3.67	0	2.8885	0.022	100.12
Gulf-1-7	54.838	0.4171	2.51164	1.9415	15.298	18.43	0.1163	3.664	0.009	2.8864	0	100.11
Gulf-1-8	55.074	0.3973	2.47712	2.0933	15.499	18.44	0.105	3.531	0.048	2.883	0	100.55
Gulf-1-9	54.849	0.1951	0.67069	1.0279	15.897	21.73	0.1137	3.596	0.062	1.6957	0.034	99.874
Gulf-1-10	55.143	0.5269	3.35732	2.1639	14.484	17.14	0.1065	3.677	0.031	3.452	0.034	100.11
Gulf-1-11	54.498	0.4524	3.11379	2.1375	14.502	17.56	0.1219	3.628	0.043	3.3838	0.004	99.446
Gulf-1-12	54.768	0.4327	2.67185	1.9246	15.027	18.27	0.1064	3.74	0.056	2.9966	0.015	100.01
Gulf-1-13	54.647	0.447	2.82651	2.0764	14.918	17.88	0.1092	4.012	0.026	3.0875	0.043	100.07
Gulf-1-14	54.997	0.4778	3.24007	2.1972	14.577	17.48	0.1134	3.712	0.012	3.4038	0.005	100.22
Gulf-1-16	55.162	0.3158	1.58373	1.71	15.65	20.02	0.0797	3.761	0.041	2.4308	0	100.75
Gulf-1-17	54.884	0.4268	2.91479	2.0789	14.776	17.88	0.1021	3.746	0.047	3.24	0	100.09
Gulf-1-18	54.872	0.3506	2.06772	1.9834	15.127	19.11	0.0994	3.704	0.001	2.7315	0.055	100.11
Gulf-1-19	54.803	0.0949	3.17926	2.8994	14.758	19.09	0.0185	2.103	0.047	2.9974	0	99.987
Gulf-1-20	54.736	0.3115	1.58244	1.7659	15.557	19.95	0.0739	3.604	0.018	2.3686	0	99.964
Gulf-1-21	54.742	0.3917	2.74417	2.0632	14.883	18.13	0.0852	3.722	0.025	3.0499	0.004	99.839
Gulf-1-22	54.789	0.4252	2.666	1.8208	15.067	18.25	0.1023	3.704	0	2.9626	0.02	99.805
Gulf-1-23	55.29	0.4347	2.56601	2.0042	15.277	18.38	0.115	3.522	0.007	2.8317	0	100.43
Gulf-1-24	54.905	0.4042	2.86519	2.1182	15.04	18.18	0.1306	3.637	0.065	3.1236	0.028	100.5
Gulf-1-25	54.979	0.468	2.99822	2.0839	14.768	17.82	0.0953	3.579	0.05	3.2039	0.047	100.1
Gulf-1-26	54.573	0.2995	1.5744	2.0645	15.282	19.87	0.0426	3.578	0.032	2.5437	0.023	99.884
Gulf-1-27	54.737	0.3993	2.43764	1.8806	15.03	18.43	0.108	3.605	0	2.9345	0.039	99.603
Gulf-1-28	54.786	0.4254	2.73534	1.9169	14.691	18.05	0.1023	3.799	0.058	3.057	0	99.621
Gulf-1-29	54.703	0.2943	1.48919	1.8457	15.431	19.81	0.044	3.748	0.037	2.4451	0.076	99.927
Gulf-1-30	54.795	0.4253	2.87412	2.0877	15.019	18.07	0.125	3.71	0.066	3.1658	0.01	100.35
Gulf-1-31	55.066	0.4414	2.79179	2.0464	14.93	18.15	0.1335	3.737	0.029	3.0766	0.047	100.45
Gulf-1-32	54.722	0.4307	2.83762	1.9197	14.641	17.93	0.0866	3.762	0.025	3.2266	0	99.579
Gulf-1-33	54.807	0.3223	1.58204	1.5288	15.337	19.9	0.1165	3.947	0	2.4159	0	99.953
Gulf-1-34	54.771	0.0887	3.07917	2.9705	14.618	19.22	0.0796	2.073	0.05	2.9652	0	99.917
Gulf-1-35	55.171	0.4674	2.76133	2.1714	14.857	17.93	0.1036	3.757	0.056	3.1697	0.003	100.45
Gulf-1-36	54.965	0.4272	2.53545	2.053	15.25	18.35	0.1392	3.43	0.025	2.8533	0.018	100.05
Gulf-1-37	54.787	0.4334	2.93205	2.0871	14.851	17.8	0.1052	3.547	0.043	3.1295	0.009	99.72
Gulf-1-38	55.079	0.4562	2.88236	1.9167	15.087	18.01	0.152	3.751	0.056	3.1164	0	100.5
Gulf-1-39	54.646	0.4327	2.96539	2.1537	14.724	17.75	0.0668	3.509	0.018	3.2647	0.018	99.552
Gulf-1-40	54.858	0.4336	2.52791	2.0547	15.133	18.27	0.0852	3.598	0.031	2.9426	0.025	99.955
Gulf-1-42	54.671	0.4293	2.78335	2.0664	15.058	18.18	0.0667	3.704	0.016	3.1286	0.021	100.13
Gulf-1-43	54.707	0.4801	2.93126	1.9942	14.791	17.96	0.1066	3.776	0.075	3.2371	0.01	100.07
Gulf-1-44	54.849	0.4181	2.4927	2.0252	15.294	18.64	0.1222	3.495	0.072	2.8732	0.028	100.31
Gulf-1-45	54.956	0.5183	3.11706	2.1172	14.633	17.49	0.1263	3.92	0.04	3.3463	0.029	100.29
Gulf-1-46	55.046	0.5345	3.23392	2.2098	14.599	17.54	0.0611	3.925	0.036	3.4714	0	100.66
Gulf-1-47	54.914	0.4565	2.67483	2.125	14.87	17.97	0.0795	3.81	0	3.2017	0	100.11
Gulf-1-48	55.081	0.3652	2.53466	1.9699	15.124	18.4	0.1422	3.356	0.015	2.9192	0	99.907
Gulf-1-49	55.303	0.2862	1.45338	1.6998	15.673	20.16	0.1181	3.73	0	2.3041	0	100.73
Gulf-1-50	54.697	0.4354	2.96181	2.1693	14.954	18.04	0.1552	3.567	0.019	3.2184	0.042	100.26
Gulf-1-51	55.088	0.1013	3.04385	2.9136	14.63	19.19	0.0399	2.271	0.069	2.9861	0.022	100.36
Gulf-1-52	54.863	0.4904	3.14514	2.1578	14.689	17.43	0.0839	3.848	0.031	3.4093	0	100.15
Gulf-1-53	54.627	0.4475	2.67156	1.8415	14.821	18.28	0.1066	3.722	0.012	3.1358	0.003	99.672
Gulf-1-54	54.992	0.4132	2.70697	2.0041	14.871	18.19	0.0924	3.818	0.04	3.1119	0	100.24
Gulf-1-55	54.968	0.4901	3.15158	2.2013	14.644	17.66	0.1052	3.955	0.024	3.4605	0	100.65
Gulf-1-56	55.382	0.0323	3.09444	2.8199	14.74	19.19	0.0684	2.01	0.024	3.1017	0	100.47
Gulf-1-57	55.007	0.4388	2.80577	1.989	15.017	17.84	0.108	3.782	0.024	3.1262	0	100.14
Gulf-1-58	54.782	0.2387	1.26153	1.2618	15.82	20.48	0.1196	3.977	0.053	2.0926	0	100.09
Gulf-1-59	54.773	0.4758	2.99098	2.0391	14.749	17.73	0.0938	3.744	0.012	3.1958	0.014	99.813
Gulf-1-60	54.92	0.4714	3.22866	2.1088	14.584	17.59	0.0825	3.771	0.024	3.3261	0.009	100.11
Gulf-1-61	54.951	0.3912	2.86896	2.1302	14.917	17.99	0.1024	3.573	0.044	3.0876	0.007	100.06

Gulf-1 Pyroxene

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Gulf-1-62	54.807	0.391	2.49528	2.0074	15.428	18.38	0.1053	3.605	0.038	2.8234	0	100.08
Gulf-1-63	54.739	0.348	2.09481	1.8883	15.309	18.69	0.084	3.652	2E-04	2.6461	0	99.453
Gulf-1-64	54.773	0.1556	0.52665	0.8342	16.25	21.88	0.0528	3.942	0	1.497	0.008	99.919
Gulf-1-65	54.812	0.2802	1.58789	1.3731	15.624	19.87	0.124	3.832	0.031	2.3331	0.01	99.877
Gulf-1-66	54.938	0.4343	2.79367	2.1387	14.846	18	0.1124	3.511	0.015	3.1195	0	99.903
Gulf-1-67	54.838	0.4277	2.65062	1.8808	15.185	18.18	0.0328	3.583	0.034	3.039	0	99.849
Gulf-1-69	55.122	0.456	2.96916	1.6165	15.084	18.21	0.0812	3.811	0.018	3.0507	0.003	100.43
Gulf-1-70	55.001	0.4324	2.94346	2.0842	14.84	18	0.0826	3.431	0	3.2084	0	100.02
Gulf-1-71	54.543	0.4384	2.90745	2.1364	14.732	17.94	0.0499	3.636	0	3.1665	0	99.552
Gulf-1-68	58.625	0.0825	0.54133	0.101	36.086	0.326	0.1197	4.804	0.085	0.0658	0	100.84
Gulf-1-72	58.423	0.0663	0.57982	0.1015	36.185	0.236	0.1212	4.923	0.107	0.0813	0.008	100.83
Gulf-1-73	58.956	0.0664	0.52526	0.0903	36.2	0.275	0.1012	4.844	0.11	0.0681	0.007	101.24
Gulf-1-74	58.316	0.0773	0.52854	0.1186	36.294	0.352	0.0685	4.637	0.089	0.0743	0	100.56
Gulf-1-75	58.295	0.0515	0.55909	0.1119	36.227	0.283	0.0813	4.79	0.128	0.0789	0	100.61

Gulf-1 Olivine

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Gulf-1-1	40.779	0.0193	0.0021	0.0179	48.866	0.044	0.1146	9.731	0.301	0.0067	0	99.882
Gulf-1-2	40.828	0.0197	0	0.0309	48.289	0	0.1596	10.92	0.331	0.0232	0	100.6
Gulf-1-3	40.735	0.0089	0	0.0173	47.791	0.008	0.127	11.04	0.245	0.0172	0	99.992
Gulf-1-4	40.874	0.0263	0.0028	0.0228	48.075	0.038	0.1299	11.07	0.257	0.0002	0	100.5
Gulf-1-5	41.479	0.01	0	0.0376	51.447	0.014	0.0995	6.71	0.363	0.0102	0.01	100.18
Gulf-1-6	40.534	0.0314	0	0	48.066	0.032	0.1511	10.95	0.238	0.015	0	100.02
Gulf-1-7	40.368	0	0	0.0156	47.745	0.006	0.1609	11.67	0.197	0.0163	0.007	100.19
Gulf-1-8	40.953	0	0.019	0.0229	48.692	0.04	0.1725	10.05	0.403	0.0278	0	100.38
Gulf-1-9	41.11	0.0137	0.0208	0	49.309	0	0.1514	9.172	0.293	0	0	100.07
Gulf-1-10	41.497	0.009	0	0	50.834	0.03	0.1432	7.875	0.353	0.0018	0.014	100.76
Gulf-1-11	40.726	0.0286	0.0225	0	47.283	0	0.1623	11.73	0.274	0.0177	0.006	100.25
Gulf-1-12	41.21	0.0038	0	0.0349	51.05	0	0.1405	7.326	0.327	0.0044	0.012	100.11
Gulf-1-13	40.342	0.0328	0	0.0641	47.618	0.054	0.1821	11.65	0.254	0.0113	0	100.21
Gulf-1-14	40.231	0.0337	0	0.0168	47.821	0.002	0.1763	11.57	0.192	0.0096	0.016	100.07
Gulf-1-15	40.49	0.0295	0	0.0142	47.345	0.03	0.165	12.01	0.174	0.0065	0	100.27
Gulf-1-225*	41.126	0.027	0.0484	0.0134	49.745	0.014	0.1923	9.161	0.358	0	0	100.68
Gulf-1-226*	41.548	0.0152	0.0026	0.052	51.005	0.024	0.1182	7.307	0.377	0	0	100.45
Gulf-1-227*	40.331	0.0192	0	0.0021	45.944	0.056	0.167	13.67	0.073	0.0062	0	100.27
Gulf-1-228*	41.066	0.0232	0	0.0194	49.329	0.049	0.1435	9.26	0.393	0.0115	0.012	100.31
Gulf-1-229*	40.473	0.0131	0	0.0096	45.923	0	0.1963	14.19	0.117	0.0047	0	100.92
Gulf-1-230*	40.933	0.0358	0	0.0275	48.145	0.004	0.1673	10.98	0.229	0.0052	0.01	100.54
Gulf-1-231*	40.867	0.0391	0.0355	0.0391	47.82	0	0.1277	11.52	0.288	0.0016	0	100.73
Gulf-1-232*	40.398	0.0376	0.0227	0	47.378	0.035	0.1359	11.89	0.278	0.0281	0	100.21
Gulf-1-233*	40.679	0.0085	0	0.0463	48.088	0.059	0.1531	11.52	0.276	0.0099	0.022	100.87
Gulf-1-234*	41.001	0	0	0.021	49.889	0	0.1054	8.85	0.305	0	0.051	100.22
Gulf-1-235*	40.657	0.0005	0	0.0488	48.138	0.048	0.1758	11.04	0.263	0.003	0	100.38
Gulf-1-237*	40.802	0.0227	0	0.0281	49.037	0.026	0.1706	9.696	0.377	0	0	100.16
Gulf-1-238*	40.986	0.0312	0.0203	0.0036	49.665	0.033	0.1066	9.027	0.448	0.0162	0.028	100.37
Gulf-1-240*	41.069	0.0351	0	0.02	49.685	0.05	0.1181	9.205	0.399	0.0178	0	100.6
Gulf-1-242*	41.004	0.0118	0	0.0323	49.549	0.04	0.1208	9.307	0.455	0.015	0	100.53
Gulf-1-247*	41.068	0.0326	0	0.0572	49.354	0.025	0.1818	9.39	0.351	0	0.005	100.47
Gulf-1-248*	40.675	0.0108	0	0.0245	48.232	0	0.122	10.94	0.269	0.0062	0	100.28

* These olivine grains were mixed in with the Gulf-1 garnet analyses

Sample	colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO*	NiO	Na2O	K2O	Total	I.D.
I5-10 -gar-p-1	purple	41.37	0.12	22.24	2.03	19.31	5.67	0.45	8.86	0.03	0.01	0	100.09	Cr-pyrope
I5-10 -gar-p-2	purple	42.04	0.19	21.9	2.8	20.78	5.3	0.33	6.69	0	0.02	0	100.06	Cr-pyrope
I5-10 -gar-p-3	purple	41.79	0.14	22.38	1.92	19.88	5.3	0.4	8.2	0	0.03	0	100.03	Pyrope
I5-10 -gar-p-4	purple	41.7	0.18	21.59	3.04	20.45	5.66	0.37	7.44	0.04	0.02	0	100.49	Cr-pyrope
I5-10 -gar-p-5	purple	41.88	0.13	22.26	1.77	19.8	5.58	0.39	8.16	0	0.02	0.01	100	Pyrope
I5-10 -gar-p-6	purple	41.7	0.1	22.45	1.69	19.6	5.44	0.45	8.56	0.01	0.01	0	100.02	Pyrope
I5-10 -gar-p-7	purple	41.68	0.24	21.88	2.07	20.29	5.13	0.38	7.78	0.02	0.02	0.01	99.49	Cr-pyrope
I5-10 -gar-p-8	purple	42.03	0.27	22.58	1.7	20.37	5.05	0.34	7.93	0	0.03	0	100.28	Pyrope
I5-10 -gar-p-9	purple	41.65	0.13	22.7	1.48	19.89	5.34	0.41	8.76	0.04	0.02	0.01	100.43	Pyrope
I5-10 -gar-p-10	purple	41.91	0.09	22.01	2.41	20.22	5.47	0.36	7.4	0.02	0	0	99.9	Cr-pyrope
I5-10 -gar-p-11	purple	41.69	0.15	20.94	3.66	20.15	5.81	0.37	7.24	0.04	0.01	0	100.05	Cr-pyrope
I5-10 -gar-p-12	purple	41.42	0.09	22.42	1.57	19.68	5.41	0.39	8.45	0.01	0.01	0	99.45	Pyrope
I5-10 -gar-p-13	purple	41.82	0.08	22.23	2.41	19.91	5.57	0.37	8.09	0	0.01	0	100.49	Cr-pyrope
I5-10 -gar-p-14	purple	41.92	0.19	22.5	1.9	19.89	5.2	0.34	8.46	0	0.02	0	100.41	Pyrope
I5-10 -gar-p-15	purple	41.91	0.15	22	2.75	20.8	5.35	0.28	6.72	0.02	0.02	0	99.99	Cr-pyrope
I5-10 -gar-p-16	purple	41.87	0.15	22.22	1.86	19.74	5.32	0.45	8.21	0	0.02	0	99.84	Pyrope
I5-10 -gar-p-17	purple	41.39	0.09	22.21	1.88	19.74	5.41	0.47	8	0	0	0	99.19	Pyrope
I5-10 -gar-p-18	purple	41.87	0.1	22.36	1.74	19.82	5.4	0.35	8.63	0	0.02	0	100.3	Pyrope
I5-10 -gar-p-19	purple	41.51	0.16	22.3	1.41	19.52	5.44	0.4	8.75	0.01	0.01	0	99.51	Pyrope
I5-10 -gar-p-20	purple	41.56	0.09	22.53	1.84	19.95	5.38	0.35	8.48	0	0.01	0	100.19	Pyrope
I5-10 -gar-p-21	purple	41.75	0.12	21.29	3.31	19.75	6.01	0.36	7.4	0.03	0.01	0	100.02	Cr-pyrope
I5-10 -gar-p-22	purple	41.83	0.08	22.48	1.79	19.86	5.44	0.39	7.81	0	0.02	0	99.7	Pyrope
I5-10 -gar-p-23	purple	41.93	0.28	22.36	1.53	20.67	4.81	0.31	8.17	0.02	0.03	0	100.11	Pyrope
I5-10 -gar-p-24	purple	41.6	0.11	22.15	2	19.78	5.56	0.43	8.51	0.02	0.01	0	100.18	Pyrope
I5-10 -gar-p-25	purple	41.74	0.16	21.8	2.39	20.14	5.36	0.3	7.55	0.01	0.02	0	99.47	Cr-pyrope
I5-10 -gar-p-26	purple	41.5	0.12	21.46	3.17	19.41	5.96	0.47	7.85	0.01	0.02	0	99.97	Cr-pyrope
I5-10 -gar-p-27	purple	41.77	0.1	22.49	1.75	19.72	5.46	0.37	8.18	0.02	0.01	0	99.88	Pyrope
I5-10 -gar-p-28	purple	41.59	0.1	22.31	2.07	19.76	5.4	0.42	8.02	0	0.01	0	99.69	Cr-pyrope
I5-10 -gar-p-29	purple	41.71	0.12	21.86	2.74	19.82	5.76	0.42	7.71	0	0.02	0	100.16	Cr-pyrope
I5-10 -gar-p-30	purple	41.87	0.16	21.87	2.79	20.73	5.35	0.33	6.87	0	0.01	0.01	99.97	Cr-pyrope
I5-10 -gar-p-31	purple	41.3	0.15	20.85	3.85	19.76	5.99	0.36	7.19	0	0	0.01	99.46	Cr-pyrope
I5-10 -gar-p-32	purple	41.73	0.13	21.86	2.52	20.17	5.48	0.38	7.61	0	0.01	0	99.88	Cr-pyrope
I5-10 -gar-p-33	purple	41.6	0.17	21.6	2.72	20.09	5.42	0.39	7.66	0	0.02	0	99.67	Cr-pyrope
I5-10 -gar-p-34	purple	41.55	0.14	22.52	1.71	19.63	5.2	0.44	8.63	0.05	0.02	0	99.89	Pyrope
I5-10 -gar-p-35	purple	42.06	0.04	21.97	2.53	20.13	5.64	0.39	7.43	0	0	0	100.18	Cr-pyrope
I5-10 -gar-p-36	purple	41.72	0.11	22.11	2.1	19.7	5.45	0.4	8.22	0	0.01	0	99.81	Cr-pyrope
I5-10 -gar-p-37	purple	41.56	0.12	22.39	1.69	19.57	5.4	0.43	8.53	0.02	0.01	0	99.72	Pyrope
I5-10 -gar-p-38	purple	41.61	0.13	22.58	1.47	19.64	5.42	0.35	8.57	0	0.01	0	99.79	Pyrope
I5-10 -gar-p-39	purple	41.61	0.34	22.11	1.68	20.38	4.85	0.34	8.11	0.04	0.01	0	99.48	Pyrope
I5-10 -gar-p-40	purple	41.7	0.13	22.45	1.82	19.65	5.43	0.4	8.38	0.02	0.02	0	100.01	Pyrope
I5-10 -gar-p-41	purple	41.57	0.12	22.66	1.42	19.55	5.23	0.41	8.87	0.01	0.03	0	99.87	Pyrope
I5-10 -gar-p-42	purple	41.74	0.12	22.54	1.54	19.89	5.33	0.45	8.2	0.01	0.01	0	99.83	Pyrope
I5-10 -gar-p-43	purple	42.32	0.09	22.07	2.47	20.74	5.49	0.34	7.09	0	0.01	0	100.63	Cr-pyrope
I5-10 -gar-p-44	purple	41.84	0.3	22.34	1.93	20.58	4.98	0.33	7.97	0.05	0.03	0.01	100.36	Pyrope
I5-10 -gar-p-45	purple	41.82	0.18	22.26	1.72	19.63	5.36	0.42	8.83	0.02	0.03	0.01	100.27	Pyrope
I5-10 -gar-p-46	purple	41.73	0.09	22.09	1.94	19.85	5.59	0.42	8.22	0	0.02	0	99.93	Pyrope
I5-10 -gar-p-47	purple	41.75	0.17	21.6	2.81	21.04	5.31	0.27	6.81	0.04	0.02	0.01	99.82	Cr-pyrope
I5-10 -gar-p-48	purple	41.97	0.25	21.35	3.14	20.34	5.4	0.29	7.63	0	0.03	0	100.39	Cr-pyrope
I5-10 -gar-p-49	purple	41.62	0.13	22.19	2.19	19.75	5.56	0.44	8.47	0.03	0	0	100.39	Cr-pyrope
I5-10 -gar-p-50	purple	41.82	0.13	22.4	1.79	19.59	5.45	0.44	8.7	0.04	0.01	0	100.39	Pyrope
I5-10 -gar-p-51	purple	41.59	0.05	22.39	1.92	19.81	5.42	0.33	8.03	0.01	0	0	99.57	Pyrope
I5-10 -gar-p-52	purple	41.57	0.1	22.57	1.59	19.39	5.49	0.4	8.94	0.01	0	0	100.06	Pyrope
I5-10 -gar-p-53	purple	42.03	0.16	21.77	2.59	20.83	5.49	0.33	6.73	0.03	0.01	0	99.96	Cr-pyrope
I5-10 -gar-p-54	purple	41.54	0.15	22.55	1.66	20.08	5.17	0.36	8.36	0	0.02	0	99.88	Pyrope
I5-10 -gar-p-55	purple	41.72	0.18	21.93	2.48	20.75	5.31	0.32	6.97	0.02	0.02	0	99.7	Cr-pyrope
I5-10 -gar-p-56	purple	41.81	0.17	21.56	2.69	20.09	5.48	0.34	7.44	0.01	0.02	0	99.61	Cr-pyrope
I5-10 -gar-p-57	purple	41.9	0.11	21.39	3.02	20.15	5.91	0.3	7.13	0.01	0	0.01	99.92	Cr-pyrope
I5-10 -gar-p-58	purple	41.79	0.1	21.75	2.47	19.84	5.57	0.38	7.74	0.04	0.01	0.02	99.71	Cr-pyrope
I5-10 -gar-p-59	purple	41.97	0.15	22.34	1.8	19.85	5.34	0.41	8.26	0	0.02	0	100.13	Pyrope

Sample	colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO*	NiO	Na2O	K2O	Total	I.D.
I5-10 -gar-p-60	purple	41.65	0.15	22.4	1.48	19.46	5.44	0.4	8.87	0.03	0.01	0	99.9	Pyrope
I5-10 -gar-p-61	purple	41.81	0.13	22.53	1.47	19.56	5.34	0.39	8.69	0	0.01	0.01	99.94	Pyrope
I5-10 -gar-p-62	purple	41.73	0.15	22.46	1.5	19.68	5.4	0.38	8.71	0	0.01	0	100.02	Pyrope
I5-10 -gar-p-63	purple	41.95	0.06	22.12	2.18	19.91	5.6	0.39	7.98	0	0.01	0.01	100.21	Cr-pyrope
I5-10 -gar-p-64	purple	41.63	0.15	21.36	3.41	20.15	5.74	0.29	7.43	0	0	0.01	100.17	Cr-pyrope
I5-10 -gar-p-65	purple	41.89	0.31	21.23	3.22	20.76	5.38	0.32	6.8	0.04	0.03	0	99.99	Cr-pyrope
I5-10 -gar-p-66	purple	41.83	0.12	22.33	1.85	19.73	5.51	0.4	8.37	0.01	0.01	0	100.15	Pyrope
I5-10 -gar-p-67	purple	41.68	0.08	22.27	1.72	19.66	5.46	0.49	8.14	0.02	0.01	0.01	99.52	Pyrope
I5-10 -gar-p-68	purple	41.69	0.12	22.02	2.07	19.67	5.52	0.37	8.27	0	0.01	0	99.74	Cr-pyrope
I5-10 -gar-p-69	purple	41.7	0.08	22.49	1.74	19.8	5.49	0.39	8.44	0	0.02	0	100.15	Pyrope
I5-10 -gar-p-70	purple	41.48	0.14	21.44	3.12	19.95	5.71	0.39	7.47	0	0.01	0	99.7	Cr-pyrope
I5-10 -gar-p-71	purple	41.83	0.07	22.54	1.81	19.83	5.41	0.42	8.22	0	0	0	100.14	Pyrope
I5-10 -gar-p-72	purple	41.5	0.1	20.66	3.77	19.77	6.27	0.32	7.33	0	0.01	0	99.72	Cr-pyrope
I5-10 -gar-p-73	purple	41.72	0.23	21.62	2.67	20.37	5.32	0.34	7.43	0.03	0.01	0	99.75	Cr-pyrope
I5-10 -gar-p-74	purple	41.72	0.12	22.47	1.47	19.67	5.33	0.45	8.62	0	0.01	0	99.85	Pyrope
I5-10 -gar-p-75	purple	41.39	0.13	22.01	1.9	19.6	5.34	0.41	8.78	0	0.02	0	99.59	Pyrope
I5-10 -gar-p-76	purple	41.32	0.14	20.52	4.32	19.68	5.97	0.32	7.4	0	0	0	99.69	Cr-pyrope
I5-10 -gar-p-77	purple	41.95	0.27	22.16	1.75	20.63	5.03	0.32	7.67	0.08	0.02	0	99.87	Pyrope
I5-10 -gar-p-78	purple	41.53	0.2	20.92	3.86	19.86	5.92	0.37	7.55	0	0.01	0	100.22	Cr-pyrope
I5-10 -gar-p-79	purple	41.81	0.09	22.43	2.05	19.77	5.6	0.43	7.88	0.02	0.01	0.01	100.1	Cr-pyrope
I5-10 -gar-p-80	purple	41.65	0.12	22.36	1.49	19.64	5.37	0.37	8.58	0.04	0.02	0	99.65	Pyrope
I5-10 -gar-p-81	purple	42.31	0.1	21.77	2.46	20.46	5.41	0.38	7.18	0	0.01	0	100.07	Cr-pyrope
I5-10 -gar-p-82	purple	41.93	0.11	22.49	1.92	19.59	5.41	0.4	8.35	0.02	0.02	0	100.25	Pyrope
I5-10 -gar-p-83	purple	41.53	0.13	22.46	1.55	19.51	5.55	0.4	8.74	0.01	0.01	0.01	99.9	Pyrope
I5-10 -gar-p-84	purple	41.58	0.22	21.17	3.51	19.89	5.62	0.36	7.81	0	0.02	0	100.2	Cr-pyrope
I5-10 -gar-p-85	purple	41.35	0.11	20.69	4.01	19.55	6.03	0.4	7.63	0	0.01	0	99.78	Cr-pyrope
I5-10 -gar-p-86	purple	41.66	0.1	22.01	2.38	19.81	5.52	0.42	8.02	0.03	0	0	99.94	Cr-pyrope
I5-10 -gar-p-87	purple	42.1	0.1	22.48	1.72	19.89	5.31	0.43	8.44	0.02	0	0	100.49	Pyrope
I5-10 -gar-p-88	purple	41.82	0.08	22.5	1.67	19.76	5.33	0.49	8.63	0	0.02	0	100.3	Pyrope
I5-10 -gar-p-89	purple	41.59	0.12	21.21	3.47	20.26	5.67	0.33	7.21	0.04	0.01	0	99.92	Cr-pyrope
I5-10 -gar-p-90	purple	41.61	0.07	22.38	1.9	19.83	5.4	0.41	8.12	0.01	0.01	0	99.73	Pyrope
I5-10 -gar-p-91	purple	41.83	0.28	22.09	1.96	20.42	4.93	0.36	7.87	0.04	0.01	0	99.8	Pyrope
I5-10 -gar-p-92	purple	41.53	0.33	21.71	2.68	20.75	5.29	0.28	7.17	0.03	0.03	0	99.79	Cr-pyrope
I5-10 -gar-p-93	purple	41.84	0.12	22.27	1.95	19.58	5.49	0.4	8.29	0.01	0.01	0.01	99.96	Pyrope
I5-10 -gar-p-94	purple	41.74	0.08	21.96	2.18	19.84	5.51	0.41	7.91	0.01	0.02	0	99.67	Cr-pyrope
I5-10 -gar-p-95	purple	41.61	0.18	21.46	2.68	20.42	5.54	0.33	7.69	0	0.02	0	99.93	Cr-pyrope
I5-10 -gar-p-96	purple	41.73	0.09	21.8	2.68	20.27	5.57	0.34	7.09	0	0	0	99.56	Cr-pyrope
I5-10 -gar-p-97	purple	41.88	0.07	22.62	1.65	19.74	5.34	0.51	8.59	0.02	0.02	0.01	100.45	Pyrope
I5-10 -gar-p-98	purple	41.85	0.18	21.63	2.8	20.51	5.62	0.34	7.07	0	0.02	0	100.02	Cr-pyrope
I5-10 -gar-p-99	purple	42.13	0.08	22.73	1.38	19.79	5.23	0.41	8.46	0.02	0.01	0	100.25	Pyrope
I5-10 -gar-p-100	purple	41.62	0.06	21.69	2.52	19.69	5.67	0.38	8.08	0	0.02	0	99.72	Cr-pyrope
I5-10 -gar-p-101	purple	41.75	0.12	22.13	2.1	19.88	5.33	0.4	8.38	0.04	0.02	0	100.15	Cr-pyrope
I5-10 -gar-p-102	purple	41.75	0.15	22.74	1.35	19.7	5.28	0.41	8.73	0	0.01	0	100.12	Pyrope
I5-10 -gar-p-103	purple	41.78	0.15	21.29	3.17	20.76	5.52	0.25	6.57	0	0.01	0	99.5	Cr-pyrope
I5-10 -gar-p-104	purple	42.15	0.34	22.12	1.84	20.37	4.86	0.35	8.45	0.03	0.02	0	100.53	Pyrope
I5-10 -gar-p-105	purple	41.58	0.1	22.16	1.98	19.72	5.52	0.39	8.36	0.04	0.01	0	99.84	Pyrope
I5-10 -gar-p-106	purple	41.56	0.13	21.4	3.26	20.2	5.71	0.3	7.44	0	0.02	0	100.02	Cr-pyrope
I5-10 -gar-p-107	purple	41.74	0.13	22.17	1.94	19.47	5.38	0.34	8.76	0	0.01	0	99.94	Pyrope
I5-10 -gar-p-108	purple	41.74	0.14	21.88	2.75	20.02	5.43	0.32	7.52	0	0.01	0	99.84	Cr-pyrope
I5-10 -gar-p-109	purple	41.91	0.23	21.54	2.93	20.42	5.41	0.32	7.4	0.03	0.02	0	100.21	Cr-pyrope
I5-10 -gar-p-110	purple	41.64	0.16	22.22	2.01	19.53	5.42	0.38	8.56	0	0.01	0	99.95	Cr-pyrope
I5-10 -gar-p-111	purple	41.58	0.14	22.34	1.73	19.99	5.36	0.41	8.68	0	0.02	0	100.26	Pyrope
I5-10 -gar-p-112	purple	41.71	0.14	22.44	1.6	19.61	5.42	0.45	8.6	0.02	0.02	0	100	Pyrope
I5-10 -gar-p-113	purple	41.66	0.08	22.04	2.9	19.96	5.83	0.38	7.48	0	0	0	100.34	Cr-pyrope
I5-10 -gar-p-114	purple	41.64	0.14	22.25	1.8	19.51	5.33	0.38	8.49	0	0.01	0	99.55	Pyrope
I5-10 -gar-p-115	purple	41.98	0.06	22.2	2.24	20	5.7	0.4	7.64	0	0.01	0	100.24	Cr-pyrope
I5-10 -gar-p-116	purple	41.69	0.12	22.46	1.59	19.72	5.42	0.4	8.44	0	0.02	0	99.88	Pyrope
I5-10 -gar-p-117	purple	41.76	0.16	22.27	1.91	19.96	5.32	0.42	8.2	0	0.01	0	100	Pyrope
I5-10 -gar-p-118	purple	41.65	0.07	22.2	2.15	19.94	5.51	0.34	8.04	0.03	0.01	0	99.95	Cr-pyrope
I5-10 -gar-p-119	purple	41.36	0.26	20.87	3.44	19.59	5.6	0.31	7.7	0.02	0.01	0	99.17	Cr-pyrope

Sample	colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO*	NiO	Na2O	K2O	Total	I.D.
I5-10 -gar-p-120	purple	41.41	0.12	22.06	2.03	19.53	5.58	0.36	8.3	0.05	0.01	0.01	99.45	Cr-pyrope
I5-10 -gar-p-121	purple	41.72	0.11	22.07	2.04	19.66	5.46	0.44	8.18	0	0.02	0	99.7	Cr-pyrope
I5-10 -gar-p-122	purple	41.8	0.15	22.77	1.43	19.88	5.26	0.39	8.46	0.01	0.01	0.01	100.17	Pyrope
I5-10 -gar-p-123	purple	41.7	0.14	22.7	1.32	19.85	5.29	0.42	8.35	0	0.01	0	99.78	Pyrope
I5-10 -gar-p-124	purple	41.74	0.11	22.14	2.02	19.78	5.26	0.41	8.22	0.04	0.02	0	99.73	Cr-pyrope
I5-10 -gar-p-125	purple	41.51	0.17	20.74	3.81	19.58	6.01	0.35	7.2	0.03	0.01	0.01	99.41	Cr-pyrope
I5-10 -gar-p-126	purple	41.9	0.36	22.8	1.38	20.43	5.44	0.24	7.58	0.02	0.02	0	100.16	Pyrope
I5-10 -gar-p-127	purple	41.73	0.15	21.69	2.68	19.98	5.69	0.37	7.79	0	0.01	0.01	100.1	Cr-pyrope
I5-10 -gar-p-128	purple	41.75	0.14	22.25	1.73	19.46	5.42	0.36	9.13	0	0.01	0.01	100.25	Pyrope
I5-10 -gar-p-129	purple	41.68	0.14	22.4	1.97	19.78	5.46	0.43	8.6	0	0.02	0	100.48	Pyrope
I5-10 -gar-p-130	purple	41.84	0.1	22.7	1.46	19.58	5.42	0.41	8.83	0	0.01	0	100.36	Pyrope
I5-10 -gar-p-131	purple	41.82	0.11	22.65	1.45	19.61	5.35	0.4	8.81	0	0.01	0	100.22	Pyrope
I5-10 -gar-p-132	purple	42.09	0.11	22.1	2.48	20.42	5.59	0.38	7.51	0.05	0.02	0	100.75	Cr-pyrope
I5-10 -gar-p-133	purple	41.55	0.1	22.1	2.15	19.84	5.52	0.38	8.26	0.04	0	0	99.93	Cr-pyrope
I5-10 -gar-p-134	purple	41.57	0.22	21.94	2.45	20.77	5.21	0.31	7.03	0.03	0.01	0	99.56	Cr-pyrope
I5-10 -gar-p-135	purple	41.84	0.17	22.42	1.9	19.79	5.29	0.41	8.35	0.01	0.01	0	100.2	Pyrope
I5-10 -gar-p-136	purple	41.93	0.35	22.66	1.28	21.29	3.44	0.31	8.92	0	0.01	0	100.19	Pyrope
I5-10 -gar-p-137	purple	41.63	0.14	22.32	1.65	19.53	5.45	0.41	9.04	0	0.02	0	100.19	Pyrope
I5-10 -gar-p-138	purple	41.74	0.14	22.35	1.57	19.96	5.22	0.38	8.41	0.03	0.01	0	99.81	Pyrope
I5-10 -gar-p-139	purple	41.9	0.2	22.21	2.27	20.48	5.18	0.3	7.47	0.02	0.01	0	100.04	Cr-pyrope
I5-10 -gar-p-140	purple	41.72	0.11	21.86	2.42	19.5	5.68	0.48	8.12	0	0.01	0.01	99.91	Cr-pyrope
I5-10 -gar-p-141	purple	41.66	0.24	21.24	3.62	20.86	5.29	0.29	6.91	0	0.01	0	100.13	Cr-pyrope
I5-10 -gar-p-142	purple	41.9	0.08	22.12	1.75	19.7	5.47	0.41	8.3	0	0.03	0	99.76	Pyrope
I5-10 -gar-p-143	purple	41.73	0.16	22.24	1.9	19.97	5.27	0.37	8.52	0	0.01	0	100.17	Pyrope
I5-10 -gar-p-144	purple	41.76	0.15	22.36	2.02	19.92	5.34	0.39	8.38	0	0.02	0	100.34	Cr-pyrope
I5-10 -gar-p-145	purple	41.71	0.13	22.23	1.76	19.15	5.59	0.52	8.93	0	0.02	0	100.04	Pyrope
I5-10 -gar-p-146	purple	41.6	0.24	22.24	1.83	20.54	4.98	0.33	7.82	0.02	0.01	0	99.61	Pyrope
I5-10 -gar-p-147	purple	41.38	0.31	20.88	3.87	19.98	6.11	0.31	6.78	0	0.02	0	99.65	Cr-pyrope
I5-10 -gar-p-148	purple	41.67	0.12	22.77	1.5	19.79	5.41	0.38	8.71	0	0.01	0	100.36	Pyrope
I5-10 -gar-p-149	purple	41.71	0.08	22.97	1.41	19.53	5.42	0.46	8.61	0.01	0.01	0	100.2	Pyrope
I5-10 -gar-p-150	purple	41.87	0.14	22.89	1.68	19.8	5.33	0.41	8.34	0	0	0	100.45	Pyrope
I5-10 -gar-p-151	purple	41.43	0.18	22.1	2	19.67	5.38	0.38	8.31	0	0.02	0	99.47	Pyrope
I5-10 -gar-p-153	purple	41.86	0.07	22.01	2.31	20.21	5.63	0.39	7.38	0.02	0.01	0	99.89	Cr-pyrope
I5-10 -gar-p-154	purple	41.81	0.23	21.16	3.48	20.64	5.34	0.31	6.75	0.04	0.01	0.01	99.78	Cr-pyrope
I5-10 -gar-p-155	purple	41.68	0.21	21.86	2.78	20.58	5.33	0.36	7.29	0.03	0.02	0	100.15	Cr-pyrope
I5-10 -gar-p-156	purple	41.52	0.25	21.39	3.18	20.55	5.45	0.3	7.33	0.03	0.01	0	100.01	Cr-pyrope
I5-10 -gar-p-157	purple	42.12	0.2	22.14	2.78	20.8	5.41	0.28	6.94	0.05	0.01	0	100.72	Cr-pyrope
I5-10 -gar-p-158	purple	41.4	0.13	22.24	1.77	19.16	5.48	0.38	8.79	0.01	0	0	99.36	Pyrope
I5-10 -gar-p-159	purple	41.75	0.13	22.04	2.39	19.62	5.7	0.43	8.23	0.02	0.01	0	100.32	Cr-pyrope
I5-10 -gar-p-160	purple	41.65	0.1	22.36	1.86	19.72	5.44	0.4	8.47	0	0	0	100	Pyrope
I5-10 -gar-p-161	purple	41.62	0.14	22.67	1.43	19.6	5.31	0.46	8.58	0	0.02	0.01	99.84	Pyrope
I5-10 -gar-p-162	purple	42.01	0.14	22.43	1.7	19.76	5.27	0.41	8.21	0.06	0.01	0	99.99	Pyrope
I5-10 -gar-p-163	purple	41.94	0.11	21.81	2.66	20.28	5.51	0.37	7.43	0.01	0	0	100.14	Cr-pyrope
I5-10 -gar-p-164	purple	41.95	0.25	22.2	2.24	20.97	5.2	0.28	7.34	0.02	0.01	0	100.46	Cr-pyrope
I5-10 -gar-p-165	purple	41.89	0.21	22.11	2.31	20.42	5.23	0.35	7.82	0.02	0.02	0	100.37	Cr-pyrope
I5-10 -gar-p-166	purple	41.97	0.13	21.15	3.52	20.07	5.98	0.38	7.21	0	0.02	0.01	100.46	Cr-pyrope
I5-10 -gar-p-167	purple	41.56	0.1	21.61	2.38	19.41	5.67	0.4	8.63	0	0.01	0	99.77	Cr-pyrope
I5-10 -gar-p-168	purple	41.81	0.05	22.07	2.33	19.83	5.57	0.42	7.79	0	0.01	0	99.87	Cr-pyrope
I5-10 -gar-p-169	purple	41.74	0.13	22.13	2.05	19.97	5.44	0.39	7.9	0.03	0.01	0	99.78	Cr-pyrope
I5-10 -gar-p-170	purple	41.49	0.15	22.34	1.93	19.9	5.15	0.37	8.32	0	0.02	0	99.66	Pyrope
I5-10 -gar-p-171	purple	41.88	0.12	22.29	2.28	20.06	5.63	0.38	7.83	0	0.02	0.01	100.49	Cr-pyrope
I5-10 -gar-p-172	purple	41.6	0.12	22.06	2.18	19.45	5.62	0.38	8.58	0.01	0.01	0	100.01	Cr-pyrope
I5-10 -gar-p-173	purple	41.78	0.11	21.21	3.84	20.3	5.64	0.34	6.85	0.04	0.01	0	100.12	Cr-pyrope
I5-10 -gar-p-174	purple	41.59	0.11	22.49	1.47	19.61	5.29	0.47	8.6	0.02	0.02	0	99.67	Pyrope
I5-10 -gar-p-175	purple	41.76	0.1	22.9	1.34	19.56	5.4	0.4	8.67	0.01	0.01	0	100.15	Pyrope
I5-10 -gar-p-176	purple	41.54	0.08	22.27	2.06	19.76	5.53	0.42	8.23	0.07	0.01	0	99.98	Cr-pyrope
I5-10 -gar-p-177	purple	41.95	0.19	22.39	2.07	20.6	5.26	0.28	7.05	0.03	0.01	0	99.83	Cr-pyrope
I5-10 -gar-p-178	purple	41.59	0.21	21.25	3.26	19.91	5.63	0.38	7.53	0	0.01	0	99.76	Cr-pyrope
I5-10 -gar-p-179	purple	41.66	0.14	22.15	2.08	19.9	5.24	0.39	8.36	0.03	0.02	0.01	99.97	Cr-pyrope
I5-10 -gar-p-180	purple	41.84	0.12	22.29	1.85	19.92	5.2	0.39	8.37	0	0.01	0	99.99	Pyrope

Sample	colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO*	NiO	Na2O	K2O	Total	I.D.
I5-10 -gar-p-181	purple	41.49	0.13	21.98	1.88	19.57	5.34	0.37	8.42	0	0.02	0	99.19	Pyrope
I5-10 -gar-p-182	purple	41.45	0.12	22.23	1.9	19.54	5.6	0.43	8.62	0.05	0	0	99.96	Pyrope
I5-10 -gar-p-183	purple	41.7	0.1	22.36	1.62	19.35	5.4	0.4	8.8	0	0.01	0	99.74	Pyrope
I5-10 -gar-p-184	purple	41.98	0.16	20.92	3.92	20.56	5.59	0.36	6.82	0	0.01	0	100.32	Cr-pyrope
I5-10 -gar-p-185	purple	41.4	0.17	22.38	1.82	20.02	5.45	0.37	8.33	0	0.01	0	99.95	Pyrope
I5-10 -gar-p-186	purple	41.85	0.16	21.71	2.75	20.45	5.71	0.37	7.01	0.02	0.01	0	100.04	Cr-pyrope
I5-10 -gar-p-187	purple	41.57	0.13	22.25	2	19.84	5.35	0.34	8.14	0	0.01	0	99.62	Pyrope
I5-10 -gar-p-188	purple	42.08	0.1	22.6	1.71	19.7	5.37	0.33	8.37	0.01	0.02	0.01	100.29	Pyrope
I5-10 -gar-p-189	purple	41.79	0.11	22.09	2.24	19.62	5.52	0.38	8.28	0	0	0	100.05	Cr-pyrope
I5-10 -gar-p-190	purple	41.77	0.26	22.12	1.86	20.83	5.03	0.32	7.63	0.03	0.02	0	99.88	Pyrope
I5-10 -gar-p-191	purple	41.96	0.12	22.85	1.37	19.78	5.18	0.43	8.85	0	0.01	0.01	100.56	Pyrope
I5-10 -gar-p-192	purple	41.62	0.16	22.56	1.48	19.65	5.32	0.41	8.75	0	0.03	0	99.99	Pyrope
I5-10 -gar-p-193	purple	41.64	0.1	22.09	2.15	19.43	5.52	0.42	8.22	0.01	0.02	0.01	99.61	Cr-pyrope
I5-10 -gar-p-194	purple	41.71	0.13	21.02	3.53	20.09	5.89	0.29	6.81	0.01	0.01	0	99.49	Cr-pyrope
I5-10 -gar-p-195	purple	41.81	0.17	22.25	1.81	19.78	5.39	0.37	8.34	0.05	0.02	0	99.99	Pyrope
I5-10 -gar-p-196	purple	41.36	0.12	22.51	1.38	19.7	5.28	0.4	8.75	0.05	0.01	0	99.55	Pyrope
I5-10 -gar-p-197	purple	41.62	0.15	21.82	2.62	20.22	5.46	0.32	7.77	0.02	0.02	0	100.02	Cr-pyrope
I5-10 -gar-p-198	purple	41.67	0.12	22.19	1.98	19.84	5.36	0.4	8.71	0.02	0.02	0	100.3	Pyrope
I5-10 -gar-p-199	purple	41.4	0.09	22.35	1.73	19.42	5.47	0.44	9.12	0.02	0	0	100.04	Pyrope
I5-10 -gar-p-200	purple	41.67	0.07	22.06	2.33	19.75	5.67	0.45	8.15	0	0.01	0	100.15	Cr-pyrope
I5-10 -gar-p-201	purple	41.97	0.05	22.03	2.66	20.14	5.63	0.32	7.51	0.02	0	0.01	100.34	Cr-pyrope
I5-10 -gar-p-202	purple	41.86	0.08	22.23	2.22	19.95	5.58	0.42	8.16	0	0.02	0.01	100.52	Cr-pyrope
I5-10 -gar-p-203	purple	41.91	0.13	20.96	4.22	20.54	5.85	0.36	6.57	0.01	0.02	0	100.55	Cr-pyrope
I5-10 -gar-p-204	purple	42.28	0.08	21.91	2.78	20.13	5.74	0.45	7.46	0.02	0.01	0.01	100.85	Cr-pyrope
I5-10 -gar-p-205	purple	41.52	0.1	22.62	1.76	19.85	5.46	0.41	8.41	0	0.02	0	100.14	Pyrope
I5-10 -gar-p-206	purple	41.53	0.11	22.12	1.96	19.77	5.43	0.43	8.2	0	0.02	0	99.58	Pyrope
I5-10 -gar-p-207	purple	41.78	0.1	22.51	1.81	20.01	5.27	0.37	8.37	0.05	0.03	0	100.29	Pyrope
I5-10 -gar-p-208	purple	41.54	0.06	21.44	3.04	19.64	5.81	0.37	8.06	0.02	0.01	0	99.99	Cr-pyrope
I5-10 -gar-p-209	purple	41.59	0.1	21.71	2.66	20.1	5.42	0.4	7.69	0.06	0.02	0	99.73	Cr-pyrope
I5-10 -gar-p-210	purple	41.5	0.13	22.42	1.82	19.71	5.59	0.46	8.32	0	0	0	99.96	Pyrope
I5-10 -gar-p-211	purple	41.66	0.12	21.33	3.29	20.04	5.87	0.33	7.33	0.01	0.02	0	99.99	Cr-pyrope
I5-10 -gar-p-212	purple	41.53	0.17	22.29	1.96	20.04	5.26	0.38	8.37	0.01	0.02	0.01	100.04	Pyrope
I5-10 -gar-p-213	purple	41.71	0.1	22.12	2.16	19.81	5.49	0.38	8.08	0.01	0.01	0	99.89	Cr-pyrope
I5-10 -gar-p-214	purple	41.96	0.09	21.7	2.56	19.56	5.64	0.39	8.38	0	0.02	0.01	100.31	Cr-pyrope
I5-10 -gar-p-215	purple	41.82	0.23	21.2	3.36	20.47	5.63	0.31	7.18	0	0.01	0	100.22	Cr-pyrope
I5-10 -gar-p-216	purple	41.73	0.14	22.18	1.94	19.89	5.43	0.34	8.22	0	0.02	0.01	99.91	Pyrope
I5-10 -gar-p-217	purple	42.02	0.36	22.65	1.43	20.18	5.35	0.29	8.15	0	0.03	0	100.47	Pyrope
I5-10 -gar-p-218	purple	41.87	0.2	21.54	2.91	20.52	5.6	0.38	7.3	0	0.02	0.01	100.34	Cr-pyrope
I5-10 -gar-p-219	purple	42.32	0.2	22.46	2.04	20.61	4.88	0.32	7.67	0	0.02	0	100.53	Cr-pyrope
I5-10 -gar-p-220	purple	41.65	0.26	22.28	1.78	20.55	5.02	0.32	7.71	0	0.03	0	99.59	Pyrope
I5-10 -gar-p-221	purple	41.9	0.17	22.7	1.61	20.5	5.03	0.37	7.63	0.04	0.01	0	99.95	Pyrope
I5-10 -gar-p-222	purple	41.93	0.09	22.48	1.71	19.69	5.46	0.45	8.34	0	0.02	0	100.18	Pyrope
I5-10 -gar-p-223	purple	41.41	0.53	22.15	1.59	19.92	6.5	0.23	7.21	0.01	0.01	0	99.57	Pyrope
I5-10 -gar-p-224	purple	41.79	0.13	22.48	1.6	19.73	5.62	0.38	8.31	0.04	0.01	0	100.1	Pyrope
I5-10 -gar-p-225	purple	41.68	0.08	21.74	2.6	19.67	5.73	0.37	8.3	0.03	0	0	100.21	Cr-pyrope
I5-10 -gar-p-226	purple	41.67	0.16	22.35	2.06	19.87	5.25	0.48	8.44	0.02	0.01	0	100.33	Cr-pyrope
I5-10 -gar-p-227	purple	41.95	0.11	22.4	2.06	19.86	5.46	0.4	8.19	0.02	0.01	0	100.46	Cr-pyrope
I5-10 -gar-p-228	purple	41.81	0.12	22.3	1.84	19.85	5.32	0.35	8.45	0	0.02	0	100.05	Pyrope
I5-10 -gar-p-229	purple	41.92	0.19	21.84	2.36	20.58	5.24	0.29	7.35	0.03	0.02	0	99.83	Cr-pyrope
I5-10 -gar-p-230	purple	41.85	0.17	22.29	1.91	19.99	5.1	0.39	8.21	0	0.02	0	99.94	Pyrope
I5-10 -gar-p-231	purple	41.68	0.07	22.42	1.98	19.56	5.36	0.42	8.45	0.01	0.01	0.01	99.98	Pyrope
I5-10 -gar-p-232	purple	41.55	0.12	22.19	1.83	19.72	5.41	0.35	8.53	0.01	0	0	99.71	Pyrope
I5-10 -gar-og-233	orange	41.25	0.34	23	0.07	17.88	5.19	0.29	12.08	0	0.03	0	100.13	Pyrope
I5-10 -gar-og-234	orange	41.63	0.39	22.74	0.9	19.21	5.29	0.28	9.77	0	0.03	0	100.24	Pyrope
I5-10 -gar-og-235	orange	39.73	0.13	22.36	0.04	12.12	5.46	0.37	20.14	0	0.01	0	100.35	Almandine
I5-10 -gar-og-236	orange	41.48	0.45	23.14	0	18.59	5.8	0.25	10.43	0	0.02	0	100.16	Pyrope
I5-10 -gar-og-237	orange	41.23	0.54	22.73	0.1	17.46	5.63	0.34	11.97	0	0.02	0.01	100.02	Pyrope
I5-10 -gar-og-238	orange	41.46	0.3	23.06	0.12	18.52	5.19	0.31	10.83	0	0.01	0	99.82	Pyrope
I5-10 -gar-og-239	orange	41.93	0.47	23.13	0.07	19.19	5.49	0.29	9.44	0	0.03	0	100.04	Pyrope
I5-10 -gar-og-240	orange	41.5	0.35	23.11	0.11	18.36	5.3	0.31	11.24	0	0.03	0	100.32	Pyrope

Sample	colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO*	NiO	Na2O	K2O	Total	I.D.
I5-10 -gar-og-241	orange	41.11	0.36	22.91	0.06	17.85	5.33	0.35	11.78	0	0.03	0	99.79	Pyrope
I5-10 -gar-og-242	orange	41.52	0.34	22.75	0.64	18.78	4.93	0.33	10.97	0.04	0.03	0	100.33	Pyrope
I5-10 -gar-og-243	orange	41.51	0.66	22.89	0.41	19.63	6.52	0.24	7.72	0	0.02	0.01	99.61	Pyrope
I5-10 -gar-og-244	orange	41.24	0.15	22.98	0.24	17.79	4.95	0.38	12.22	0	0.02	0	99.96	Pyrope
I5-10 -gar-og-245	orange	41.35	0.55	22.82	0.55	19.18	6.26	0.27	8.73	0.05	0.02	0	99.79	Pyrope
I5-10 -gar-og-246	orange	41.5	0.33	22.85	0.71	19.26	5.48	0.26	9.22	0	0.04	0	99.64	Pyrope
I5-10 -gar-og-247	orange	41.43	0.3	23.27	0.04	18.17	4.87	0.37	12	0.03	0.03	0	100.49	Pyrope
I5-10 -gar-og-248	orange	40.22	0.16	22.62	0.12	15.27	4.09	0.44	16.87	0.02	0.03	0.01	99.84	Almandine
I5-10 -gar-og-249	orange	41.63	0.36	22.78	0.97	19.26	4.73	0.34	10.24	0	0.03	0	100.34	Pyrope
I5-10 -gar-og-250	orange	41.16	0.39	22.9	0.01	18.03	5.27	0.31	11.95	0	0.03	0	100.04	Pyrope
I5-10 -gar-og-251	orange	41.65	0.41	23.28	0.1	19.12	5.45	0.29	9.85	0.01	0.03	0	100.21	Pyrope
I5-10 -gar-og-252	orange	41.16	0.45	22.76	0.07	17.83	5.32	0.38	11.99	0	0.03	0	99.99	Pyrope
I5-10 -gar-og-253	orange	41.4	0.46	22.87	0.08	17.94	5.37	0.33	11.9	0.05	0.03	0	100.42	Pyrope
I5-10 -gar-og-254	orange	41.64	0.62	22.77	0.47	19.55	6.56	0.19	8.34	0.02	0.02	0	100.16	Pyrope
I5-10 -gar-og-255	orange	41.56	0.42	22.88	0.58	19.67	5.04	0.25	8.94	0.05	0.03	0	99.42	Pyrope
I5-10 -gar-og-256	orange	40.94	0.54	22.41	0.05	17.53	5.67	0.29	11.71	0.03	0.03	0	99.21	Pyrope
I5-10 -gar-og-257	orange	40.36	0.12	22.62	0.04	13.58	7.38	0.18	15.61	0	0.01	0	99.9	Almandine
I5-10 -gar-og-258	orange	39.87	0.11	22.14	0.1	12.03	5.54	0.36	20.09	0.02	0.01	0	100.28	Almandine
I5-10 -gar-og-259	orange	41.11	0.34	22.79	0.12	17.93	5.16	0.29	12.14	0.01	0.02	0	99.91	Pyrope
I5-10 -gar-og-260	orange	38.55	0.1	21.74	0	9.11	5.72	0.51	24.31	0	0.01	0.01	100.07	Almandine
I5-10 -gar-og-261	orange	41.31	0.47	22.68	0.13	17.62	5.41	0.35	11.87	0.01	0.03	0	99.89	Pyrope
I5-10 -gar-og-262	orange	40.65	0.18	22.86	0.09	15.46	4.21	0.42	16.27	0	0.03	0	100.16	Almandine

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
I5-10 -oxi-1	0.13	0.72	0.02	33.29	32.27	0.13	16.79	0.02	0	15.96	0.26	0.07	99.65	4.08	12.29	100.06
I5-10 -oxi-2	0.14	0.75	0	31.78	34.4	0.18	16.96	0.02	0.24	15.18	0.29	0.04	99.99	3.81	11.75	100.37
I5-10 -oxi-3	0.12	0.69	0	33.36	32.81	0.14	16.98	0	0.11	15.1	0.25	0.06	99.61	3.6	11.87	99.97
I5-10 -oxi-4	0.15	0.71	0	29.91	36.14	0.17	16.26	0.01	0.14	16.03	0.23	0.04	99.78	3.81	12.6	100.16
I5-10 -oxi-5	0.05	0.57	0.03	17.88	48.69	0.24	13.78	0.02	0.21	18.23	0.17	0.08	99.92	4.29	14.37	100.35
I5-10 -oxi-6	0.12	0.76	0	30.92	35.67	0.17	16.63	0.01	0.14	15.67	0.26	0.04	100.39	3.69	12.35	100.76
I5-10 -oxi-8	0.16	0.57	0.04	33.52	33	0.1	16.97	0	0.16	15.22	0.3	0.07	100.1	3.69	11.9	100.47
I5-10 -oxi-9	0.14	0.58	0	37.4	28.48	0.08	17.65	0	0.11	14.93	0.24	0.04	99.67	3.95	11.37	100.07
I5-10 -oxi-11	0.11	0.72	0.03	27.64	38.61	0.15	15.92	0.01	0.16	15.61	0.27	0.06	99.31	3.49	12.48	99.66
I5-10 -oxi-12	0.14	0.71	0.01	32.91	32.93	0.19	17.13	0.01	0.1	15.32	0.29	0.06	99.79	3.97	11.74	100.19
I5-10 -oxi-13	0.12	1.18	0	31.74	34.29	0.17	17.33	0	0.16	14.77	0.3	0.07	100.14	3.47	11.64	100.49
I5-10 -oxi-14	0.13	0.53	0	35.93	30.42	0.18	17.38	0	0.2	14.52	0.3	0.06	99.66	3.38	11.48	100
I5-10 -oxi-15	0.15	0.69	0.03	33.21	32.92	0.16	16.86	0.02	0.08	15.64	0.28	0.05	100.1	3.73	12.28	100.47
I5-10 -oxi-16	0.04	0.31	0	17.84	49.36	0.23	13.19	0	0.1	18.5	0.19	0.08	99.84	3.81	15.07	100.22
I5-10 -oxi-17	0.06	0.37	0	19.23	47.71	0.2	13.67	0.01	0.22	17.91	0.19	0.1	99.67	3.91	14.39	100.06
I5-10 -oxi-19	0.04	0.32	0	30.23	37.27	0.21	16.24	0.01	0.11	15.24	0.23	0.1	99.99	3.29	12.28	100.32
I5-10 -oxi-22	0.14	0.81	0.03	30.47	35.86	0.06	16.78	0	0.12	15.29	0.27	0.05	99.88	3.84	11.83	100.26
I5-10 -oxi-23	0.13	0.8	0.02	30.5	35.2	0.15	16.61	0	0.08	15.45	0.28	0.03	99.25	3.76	12.07	99.63
I5-10 -oxi-24	0.06	1.4	0.02	34.18	30.78	0.19	16.91	0.01	0.19	16.43	0.25	0.09	100.5	3.89	12.93	100.89
I5-10 -oxi-25	0.07	0.69	0	29.82	36.21	0.21	15.99	0.01	0.2	16.21	0.25	0.07	99.73	3.78	12.8	100.1
I5-10 -oxi-26	0.14	0.66	0.02	34.79	31.1	0.13	16.94	0.02	0.17	15.48	0.25	0.06	99.77	3.71	12.15	100.15
I5-10 -oxi-28	0.15	0.61	0	36.85	29.07	0.08	17.25	0.04	0.12	15.44	0.29	0.05	99.95	3.9	11.93	100.35
I5-10 -oxi-29	0.04	0.48	0.02	31.71	34.4	0.28	15.95	0	0.08	16.26	0.24	0.08	99.53	3.48	13.13	99.88
I5-10 -oxi-30	0.05	0.96	0	31.83	34.29	0.22	16.61	0	0.16	15.6	0.29	0.06	100.05	3.41	12.52	100.4
I5-10 -oxi-32	0.14	0.78	0.05	34.01	31.87	0.14	16.82	0.01	0.16	16.34	0.25	0.05	100.61	4.09	12.66	101.02
I5-10 -oxi-33	0.04	0.7	0.02	16.57	48.71	0.32	12.77	0	0.09	19.47	0.16	0.09	98.93	4.12	15.76	99.34
I5-10 -oxi-34	0	0.3	0	17.15	49.2	0.32	13.11	0	0.34	18.63	0.19	0.1	99.34	4.33	14.74	99.77
I5-10 -oxi-35	0.02	0.27	0.02	21	45.71	0.17	13.85	0.01	0.29	18.14	0.21	0.09	99.77	4.44	14.15	100.21
I5-10 -oxi-37	0.16	0.78	0	30.59	35.26	0.14	16.65	0	0.14	15.5	0.25	0.06	99.53	3.85	12.03	99.91
I5-10 -oxi-41	0.06	0.94	0	30.85	35.2	0.29	16.54	0	0.3	15.62	0.24	0.07	100.11	3.47	12.5	100.46
I5-10 -oxi-42	0.06	0.32	0	21.7	45.73	0.2	14.63	0	0.15	16.63	0.18	0.06	99.66	3.62	13.37	100.02
I5-10 -oxi-43	0.15	0.85	0	29.63	36.42	0.15	16.68	0.02	0.2	15.75	0.32	0.05	100.22	4.2	11.98	100.64
I5-10 -oxi-44	0.14	0.73	0	35.66	30.32	0.21	17.19	0.01	0.08	15.38	0.28	0.04	100.04	3.51	12.23	100.4
I5-10 -oxi-45	0.11	0.76	0	30.6	35.24	0.24	16.8	0	0.04	15.77	0.31	0.03	99.91	4.11	12.08	100.32
I5-10 -oxi-46	0.11	0.44	0.03	43.88	22.74	0.12	19.24	0	0.08	13.49	0.24	0.07	100.43	3.72	10.14	100.8
I5-10 -oxi-47	0.14	0.86	0	29.64	36.88	0.16	16.75	0	0.21	15.81	0.27	0.06	100.77	4.09	12.13	101.18
I5-10 -oxi-48	0.12	0.66	0	33.98	31.79	0.17	17.14	0	0.04	15.12	0.28	0.08	99.38	3.8	11.7	99.76
I5-10 -oxi-49	0.07	1.23	0	37.44	27.59	0.12	17.45	0	0.15	15.66	0.34	0.1	100.13	3.85	12.19	100.52
I5-10 -oxi-50	0.06	3.68	0	15.93	40.51	0.4	12.07	0	0.24	26.62	0.23	0.11	99.85	7.72	19.67	100.63
I5-10 -oxi-51	0.13	0.71	0.04	30.79	35.02	0.24	16.69	0	0.2	15.42	0.27	0.07	99.58	3.8	12	99.96
I5-10 -oxi-53	0.15	0.69	0	31.55	34.67	0.22	16.97	0.02	0.3	15.58	0.26	0.04	100.45	4.17	11.84	100.87
I5-10 -oxi-54	0.12	0.73	0.01	33.99	32.16	0.17	17.02	0	0.07	15.24	0.26	0.08	99.85	3.5	12.1	100.2
I5-10 -oxi-56	0.25	1.33	0	26.42	39.29	0.17	13.91	0.02	0.25	16.62	0.29	0.05	98.61	0.99	15.72	98.71
I5-10 -oxi-57	0.16	0.76	0	33.2	33.06	0.1	16.93	0	0.2	15.37	0.27	0.05	100.11	3.71	12.03	100.48
I5-10 -oxi-58	0.06	0.61	0.01	43.96	22.06	0.16	18.78	0	0.16	13.74	0.25	0.05	99.84	3.34	10.73	100.18
I5-10 -oxi-59	0.13	0.8	0	30.14	35.82	0.14	16.66	0	0.15	15.53	0.3	0.05	99.71	4.01	11.93	100.11
I5-10 -oxi-60	0.04	0.4	0	16.52	50.32	0.22	13.68	0	0.2	17.93	0.17	0.08	99.57	4.36	14.01	100.01
I5-10 -oxi-62	0.12	0.72	0	31.34	35.2	0.19	16.89	0.02	0.22	15.48	0.31	0.05	100.54	3.94	11.94	100.93
I5-10 -oxi-63	0.04	0.53	0	30.39	35.52	0.3	15.5	0	0.14	17.5	0.21	0.14	100.26	4.1	13.81	100.67
I5-10 -oxi-65	0.05	1.85	0	14.74	47.8	0.33	12.07	0.01	0.24	22.18	0.17	0.08	99.52	5.05	17.63	100.02
I5-10 -oxi-66	0.15	0.57	0	37.34	28.54	0.09	17.63	0	0.05	14.6	0.27	0.08	99.32	3.67	11.3	99.69
I5-10 -oxi-69	0.14	0.78	0.01	31.81	34.67	0.1	17.03	0.01	0.11	15.18	0.29	0.06	100.18	3.8	11.75	100.56
I5-10 -oxi-70	0.11	0.66	0.01	30.73	35.13	0.18	16.5	0.03	0.18	15.65	0.26	0.07	99.51	3.98	12.07	99.91
I5-10 -oxi-71	0.11	0.79	0	31.46	34.42	0.17	16.83	0.06	0.13	15.62	0.27	0.03	99.89	4.1	11.93	100.3
I5-10 -oxi-72	0.17	0.38	0	46.49	19.54	0.21	19.23	0	0.13	13.66	0.34	0.05	100.21	3.5	10.51	100.56
I5-10 -oxi-73	0.04	0.18	0.01	22.17	45.18	0.19	14.12	0.01	0.18	16.99	0.16	0.12	99.33	3.47	13.87	99.68
I5-10 -oxi-74	0.04	0.89	0.01	24.59	40.94	0.25	14.45	0.02	0.28	18.22	0.16	0.11	99.95	4.04	14.58	100.36
I5-10 -oxi-75	0.07	1.34	0.02	31.68	32.93	0.19	16.24	0	0.12	16.57	0.3	0.06	99.51	3.66	13.27	99.88
I5-10 -oxi-76	0.04	1.63	0.05	18.81	46.4	0.27	14.07	0.01	0.31	18.57	0.19	0.09	100.44	3.82	15.14	100.83
I5-10 -oxi-77	0.02	0.27	0	15.97	51.24	0.31	12.77	0.01	0.22	19.47	0.13	0.11	100.53	4.33	15.58	100.96
I5-10 -oxi-78	0.13	0.67	0.02	32.31	33.6	0.11	17.02	0.01	0.2	15.18	0.28	0.04	99.55	4.09	11.5	99.96

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
I5-10 -oxi-79	0.04	0.26	0.05	17.56	48.85	0.27	13.1	0.02	0.24	18.42	0.16	0.06	99.02	3.97	14.85	99.42
I5-10 -oxi-81	0.03	0.18	0	21.29	45.52	0.33	13.77	0	0.19	17.73	0.17	0.1	99.32	3.63	14.47	99.68
I5-10 -oxi-82	0.03	0.76	0	29.48	35.62	0.23	15.14	0	0.11	18.2	0.22	0.07	99.87	4.34	14.3	100.31
I5-10 -oxi-83	0.01	0.87	0.02	20.66	44.66	0.29	13.46	0	0.17	19.44	0.15	0.12	99.86	4.25	15.61	100.29
I5-10 -oxi-84	0.02	0.13	0	17.39	49.79	0.26	13.14	0	0.1	18.39	0.13	0.07	99.42	3.92	14.86	99.81
I5-10 -oxi-85	0.14	0.66	0	31.81	34.11	0.18	16.81	0.01	0.19	15.38	0.27	0.06	99.62	3.91	11.86	100.01
I5-10 -oxi-86	0.05	1.54	0	29.4	34.48	0.26	16.04	0	0.21	16.9	0.24	0.06	99.18	3.98	13.32	99.58
I5-10 -oxi-87	0.05	0.88	0	19.26	46.75	0.22	13.79	0.03	0.16	17.72	0.19	0.1	99.14	3.55	14.53	99.5
I5-10 -oxi-88	0.06	1.15	0.03	25.16	37.24	0.18	13.71	0	0.14	21.53	0.25	0.1	99.53	6.17	15.97	100.15
I5-10 -oxi-89	0.03	1	0	16	50.25	0.22	14.26	0	0.11	16.96	0.14	0.08	99.05	3.84	13.5	99.43
I5-10 -oxi-90	0.14	0.78	0	30.82	34.78	0.12	16.59	0.01	0.15	15.47	0.27	0.09	99.2	3.93	11.93	99.6
I5-10 -oxi-91	0.02	0.22	0	18.34	48.42	0.17	13.26	0	0.27	18.57	0.13	0.1	99.51	4.42	14.6	99.95
I5-10 -oxi-92	0.03	0.72	0.01	17.86	48.39	0.23	13.18	0.01	0.18	18.61	0.17	0.11	99.48	3.78	15.2	99.86
I5-10 -oxi-93	0.07	4.39	0	15.75	39.83	0.41	12.74	0	0.14	25.43	0.23	0.06	99.04	7	19.14	99.74
I5-10 -oxi-94	0.07	1.61	0	20.93	39.27	0.32	13.02	0	0.25	23.35	0.17	0.08	99.07	7.24	16.84	99.79
I5-10 -oxi-95	0.06	0.4	0.03	31.14	36.29	0.22	16.64	0.01	0.16	15.37	0.21	0.09	100.62	3.6	12.14	100.98
I5-10 -oxi-96	0.13	0.72	0.03	33.01	32.48	0.15	16.84	0	0.14	15.89	0.29	0.04	99.73	4.19	12.12	100.15
I5-10 -oxi-97	0.15	0.74	0	31.25	34.57	0.06	16.78	0.02	0.06	15.24	0.27	0.06	99.22	3.93	11.7	99.61
I5-10 -oxi-98	0.14	0.79	0.02	30.87	35.05	0.17	16.87	0	0.11	15.44	0.28	0.06	99.79	3.97	11.87	100.19
I5-10 -oxi-99	0.13	0.74	0.03	32.75	33.17	0.07	17.09	0.01	0.16	15.12	0.3	0.06	99.63	4.02	11.5	100.03
I5-10 -oxi-100	0.14	0.65	0.02	34.76	31.47	0.18	17.3	0	0.18	14.75	0.3	0.07	99.81	3.49	11.61	100.16
I5-10 -oxi-101	0.12	0.62	0	38.4	27.3	0.14	17.85	0	0.05	15.15	0.29	0.07	99.98	4.14	11.42	100.39
I5-10 -oxi-102	0.07	0.43	0.02	32.49	33.58	0.15	16.36	0	0.27	16.07	0.22	0.1	99.75	4.18	12.3	100.17
I5-10 -oxi-103	0.01	0.12	0	17.15	50.05	0.22	13.32	0	0.2	19.06	0.18	0.1	100.4	4.92	14.63	100.89
I5-10 -oxi-104	0.14	0.79	0.01	29.72	36.17	0.19	16.54	0	0.25	15.62	0.24	0.08	99.75	3.95	12.07	100.14
I5-10 -oxi-105	0.11	0.76	0	33.51	32.3	0.1	17.07	0	0.12	15.24	0.28	0.06	99.55	3.93	11.7	99.95
I5-10 -oxi-107	0.01	0.31	0	18.36	49.23	0.15	13.7	0	0.11	17.45	0.15	0.07	99.54	3.69	14.13	99.91
I5-10 -oxi-112	0.05	0.25	0	22.83	44.12	0.17	13.96	0	0.28	18.12	0.21	0.11	100.09	4.14	14.4	100.5
I5-10 -oxi-114	0.05	1.72	0.04	15.16	45.44	0.32	11.04	0.01	0.24	25.16	0.22	0.12	99.51	6.71	19.12	100.19
I5-10 -oxi-115	0.08	0.34	0.01	23.32	43.62	0.17	15	0	0.21	16.67	0.17	0.06	99.67	4.07	13.01	100.08
I5-10 -oxi-129	0.04	0.21	0	17.47	49.49	0.22	13.03	0	0.16	18.8	0.12	0.12	99.67	4.17	15.05	100.09
I5-10 -oxi-130	0.03	0.41	0	22.92	42.82	0.1	13.55	0	0.14	19.36	0.18	0.12	99.65	4.77	15.07	100.13
I5-10 -oxi-131	0.04	0.16	0	18.05	48.68	0.32	13.24	0	0.13	18.23	0.13	0.1	99.09	3.85	14.77	99.48
I5-10 -oxi-133	0.03	0.18	0.02	17.53	49.2	0.24	13.02	0	0.2	18.82	0.17	0.09	99.5	4.26	14.98	99.92
I5-10 -oxi-134	0.03	0.73	0	17.62	48.43	0.3	13.78	0.01	0.26	18.63	0.18	0.04	100	4.55	14.53	100.45
I5-10 -oxi-139	0.04	1.93	0	17.82	44.38	0.42	12.4	0.01	0.28	22.78	0.23	0.12	100.4	5.36	17.95	100.94
I5-10 -oxi-141	0.05	0.31	0.04	16.7	50.08	0.32	12.93	0	0.07	19.39	0.15	0.07	100.11	4.19	15.62	100.53
I5-10 -oxi-143	0.01	2.29	0	15.32	46.04	0.34	12.2	0	0.36	22.62	0.2	0.13	99.52	5.48	17.69	100.07
I5-10 -oxi-149	0.03	2.14	0.01	18.86	44.28	0.35	13.79	0	0.3	19.62	0.2	0.09	99.65	4.19	15.85	100.07
I5-10 -oxi-153	0.04	0.31	0	21.31	45.2	0.16	13.58	0	0.12	18.5	0.19	0.14	99.56	4.17	14.74	99.98
I5-10 -oxi-161	0.05	2.48	0.02	20.98	40.91	0.23	13.95	0	0.08	20.46	0.24	0.13	99.53	4.73	16.21	100
I5-10 -oxi-168	0.02	0.36	0	17.65	49.05	0.3	13.23	0	0.18	18.58	0.15	0.11	99.63	4.02	14.97	100.04
I5-10 -oxi-173	0.01	0.18	0	16.21	50.63	0.24	12.95	0	0.15	18.85	0.12	0.08	99.42	4.38	14.91	99.86
I5-10 -oxi-178	0.06	0.5	0.05	29.47	36.76	0.18	15.79	0.02	0.14	16.81	0.22	0.07	100.07	4.15	13.07	100.48
I5-10 -oxi-181	0.09	1.97	0	26.51	32.89	0.21	13.4	0.01	0	24.27	0.28	0.08	99.71	7.36	17.65	100.45
I5-10 -oxi-185	0.01	1.76	0	16.8	46.63	0.19	12.61	0	0.04	21.02	0.19	0.13	99.37	4.62	16.86	99.83
I5-10 -oxi-186	0.02	0.41	0	17.49	49.47	0.21	13.13	0	0.06	18.61	0.14	0.12	99.67	3.89	15.11	100.06
I5-10 -oxi-189	0.01	0.48	0.01	18.45	48.26	0.19	13.41	0	0.16	18.61	0.2	0.07	99.86	4.21	14.82	100.29
I5-10 -oxi-190	0.02	0.25	0	30.4	36.26	0.23	15.75	0	0.09	16.8	0.22	0.1	100.12	4.11	13.1	100.53
I5-10 -oxi-193	0.04	0.36	0	18.9	48.08	0.24	13.51	0	0.19	18.2	0.16	0.09	99.78	3.9	14.69	100.17
I5-10 -oxi-195	0	0.11	0.02	30.88	31.94	0.23	7.6	0	0.27	28.71	0.12	0.18	100.06	3.76	25.32	100.44
I5-10 -oxi-199	0.01	0.34	0.01	18.71	47.58	0.18	13.24	0	0.2	18.9	0.16	0.07	99.41	4.5	14.84	99.86
I5-10 -oxi-200	0.03	0.26	0.04	16.51	49.95	0.32	12.93	0	0.23	19.31	0.15	0.11	99.84	4.52	15.24	100.29
I5-10 -oxi-202	0.03	0.88	0	18.33	46.98	0.22	13.71	0	0.27	17.84	0.2	0.07	98.54	4.01	14.23	98.94
I5-10 -oxi-203	0.02	0.65	0.07	24.57	40.71	0.2	14.23	0	0.07	19.16	0.2	0.1	99.97	4.74	14.89	100.45
I5-10 -oxi-204	0.02	0.18	0	21.92	44.32	0.33	13.75	0	0.08	18.14	0.14	0.08	98.96	3.89	14.65	99.35
I5-10 -oxi-205	0.025	0.374	0	19.439	47.249	0.259	13.436	0	0.314	18.723	0.115	0.119	100.05	4.234	14.91	100.48
I5-10 -oxi-206	0.009	0.256	0.025	16.773	50.186	0.254	12.857	0	0.131	18.551	0.119	0.082	99.242	3.709	15.21	99.614
I5-10 -oxi-207	0.055	0.122	0	22.941	44.283	0.22	14.23	0.003	0.133	18.233	0.17	0.117	100.51	4.398	14.28	100.95
I5-10 -oxi-208	0.029	0.041	0.012	16.747	51.342	0.152	13.285	0	0.038	17.57	0.151	0.073	99.439	3.583	14.35	99.798

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
I5-10 -oxi-27	0	49.87	0.09	0.31	0.35	0	7.83	0.01	0.43	39.47	0.02	0.02	98.4	9.96	30.5	99.4	62.330243	28.510259	9.15949832	100
I5-10 -oxi-40	0.01	51.4	0.11	0.63	0.96	0	10.25	0.06	0.23	34.89	0.24	0.03	98.81	8.18	27.53	99.63	55.628784	36.922028	7.44918836	100
I5-10 -oxi-55	0	97.84	0.02	0.09	0.26	0	0.1	0	0	0.74	0	0	99.04	0	0.74	99.04	80.592516	19.407484	0	100
I5-10 -oxi-121	0	47.12	0.15	0.42	0.85	0.15	6.72	0.02	0.26	42.73	0.09	0.01	98.52	13.68	30.41	99.89	62.646373	24.667212	12.6864155	100
I5-10 -oxi-128	0.03	49.94	0.11	0.29	0.18	0.05	6.46	0.01	0.2	41.54	0.05	0.02	98.9	9.1	33.34	99.81	68.120768	23.514136	8.36509545	100
I5-10 -oxi-142	0.01	47.77	0.11	0.34	1.02	0.07	6.98	0.02	0.21	41.89	0.1	0.04	98.58	12.8	30.38	99.86	62.559466	25.604542	11.8359922	100
I5-10 -oxi-162	0.03	50.03	0.08	0.33	0.15	0	6.4	0.03	0.24	41.43	0.03	0.03	98.8	8.97	33.36	99.7	68.37472	23.36809	8.25718998	100
I5-10 -oxi-169	0.01	51.65	0.05	1.2	2.94	0	11.91	0.05	0.2	30.65	0.18	0	98.85	6.45	24.84	99.49	50.740071	43.337226	5.92270378	100
I5-10 -oxi-174	0.02	46.8	0.04	0.15	0.45	0	6.33	0.02	0.43	44.03	0.09	0.04	98.4	15.26	30.3	99.93	62.529497	23.286819	14.1836839	100
I5-10 -oxi-176	0.03	34.38	0.32	0.05	0.32	0.64	2.69	0	0.15	57.99	0.02	0.02	96.6	34.08	27.33	100.01	57.588411	10.101925	32.3096643	100
I5-10 -oxi-183	0.01	48.59	0.14	0.13	0.75	0.01	6.61	0	0.31	42.04	0.07	0.01	98.67	11.49	31.71	99.82	65.166941	24.211057	10.6220017	100
I5-10 -oxi-184	0.01	44.86	0.21	0.14	0.06	0.22	3.94	0.02	0.23	48.35	0.03	0	98.07	16.35	33.64	99.71	70.030709	14.625594	15.3436963	100
I5-10 -oxi-187	0	50.83	0.05	0.26	0.16	0	6.51	0.02	0.24	40.94	0.01	0	99.02	7.84	33.89	99.81	69.132704	23.668941	7.19835457	100
I5-10 -oxi-188	0.02	43.99	0.15	0.15	0.47	0.07	5.45	0	0.31	47.01	0.03	0	97.65	19.13	29.8	99.57	61.932488	20.183923	17.883589	100
I5-10 -oxi-191	0.02	44.52	0.12	0.12	0.25	0	4.17	0.01	0.29	48.71	0.08	0	98.29	18.14	32.38	100.1	67.483691	15.48984	17.0264698	100
I5-10 -oxi-192	0	47.45	0.1	0.1	0.47	0.06	6.63	0	0.37	42.88	0.05	0.05	98.16	13.66	30.59	99.53	63.008672	24.334973	12.6563552	100
I5-10 -oxi-194	0.03	47.59	0.16	0.28	0.24	0	4.43	0.01	0.3	45.92	0.08	0.04	99.08	12.47	34.7	100.33	71.960113	16.379872	11.6600155	100
I5-10 -oxi-196	0	42.98	0.21	0.18	0.45	0	4.72	0	0.3	49.26	0.04	0	98.14	21.27	30.12	100.27	62.623143	17.485517	19.8913392	100
I5-10 -oxi-197	0	50.29	0.07	0.24	0.27	0	6.38	0	0.2	41.21	0.03	0.03	98.72	8.37	33.68	99.56	68.985546	23.292576	7.72187808	100
I5-10 -oxi-198	0	46.06	0.24	0.26	0.21	0	5.07	0.01	0.34	46.07	0.07	0.03	98.36	15.42	32.19	99.91	66.837596	18.757321	14.4050833	100
I5-10 -oxi-201	0.01	47.81	0.16	0.1	0.1	0.04	5.07	0	0.4	44.84	0.01	0.04	98.56	12.31	33.76	99.8	69.841533	18.692653	11.4658133	100
I5-10 -oxi-205	0.01	50.83	0.2	0.31	0.32	0	7.14	0.05	0.28	39.36	0.07	0	98.56	7.28	32.81	99.29	67.206494	26.071152	6.72235398	100
I5-10 -ilm-206	0.004	48.98	0.042	0.501	0	0	6.995	0.07	0.502	41.827	0	0.003	98.923	12.001	31.03	100.126	63.462	25.495	11.043	100
I5-10 -ilm-207	0.01	47.782	0.125	0.082	0.219	0.14	5.927	0.006	0.315	43.807	0.003	0.013	98.426	12.639	32.44	99.693	66.625	21.695	11.68	100
I5-10 -ilm-208	0	47.237	0.054	0.185	0.513	0.287	7.1	0.007	0.414	42.469	0.064	0.022	98.352	14.047	29.83	99.759	61.124	25.926	12.95	100
I5-10 -ilm-209	0	48.98	0.148	0.073	0.601	0.043	6.687	0.004	0.267	41.805	0.054	0.058	98.718	10.921	31.98	99.812	65.519	24.414	10.067	100
I5-10 -ilm-210	0.027	50.736	0.083	0.382	0.156	0.021	6.647	0.004	0.269	40.884	0.033	0	99.242	8.066	33.63	100.05	68.486	24.123	7.391	100
I5-10 -ilm-211	0.02	51.112	0.074	0.163	0.444	0	8.281	0.002	0.358	38.672	0.04	0.008	99.173	8.638	30.9	100.039	62.37	29.785	7.845	100
I5-10 -ilm-212	0.006	50.767	0.077	0.59	0.558	0.041	8.036	0.025	0.265	38.136	0.087	0.012	98.601	7.827	31.09	99.385	63.539	29.265	7.196	100
I5-10 -ilm-213	0	50.219	0.077	0.27	0.147	0	6.293	0.012	0.222	41.67	0.049	0	98.959	8.812	33.74	99.842	68.971	22.924	8.104	100
I5-10 -ilm-214	0.005	51.14	0.099	0.339	0.146	0.034	7.373	0.028	0.249	39.33	0.039	0.011	98.794	7.391	32.68	99.535	66.498	26.735	6.766	100
I5-10 -ilm-215	0.004	50.937	0.077	0.223	0.107	0.146	6.737	0.017	0.265	40.474	0.062	0.01	99.059	7.463	33.76	99.806	68.725	24.44	6.835	100
I5-10 -ilm-216	0.009	46.148	0.115	0.182	0.452	0.005	5.026	0.007	0.333	46.297	0.041	0.041	98.656	15.597	32.26	100.218	66.885	18.568	14.547	100
I5-10 -ilm-217	0.002	53.955	0.937	0.176	0.05	0	14.671	0.007	1.91	27.482	0.01	0.04	99.239	6.756	21.4	99.916	42.308	51.682	6.009	100
I5-10 -ilm-218	0.001	49.615	0.161	0.306	0.143	0.038	6.193	0.008	0.327	41.767	0.079	0.021	98.659	9.321	33.38	99.593	68.669	22.705	8.627	100
I5-10 -ilm-219	0.003	48.487	0.158	0.126	0.06	0.216	5.512	0.024	0.368	44.214	0.014	0	99.181	11.487	33.88	100.332	69.325	20.099	10.576	100
I5-10 -ilm-220	0	48.973	0.14	0.298	0.647	0.057	7.209	0.011	0.197	40.927	0.105	0	98.565	10.9	31.12	99.657	63.677	26.288	10.035	100
I5-10 -ilm-221	0.006	51.194	0.068	0.273	0.322	0.009	7.231	0.02	0.339	39.642	0.069	0.013	99.185	7.606	32.8	99.947	66.791	26.241	6.968	100
I5-10 -ilm-222	0.001	49.98	0.092	0.306	0.114	0.319	6.551	0.025	0.291	41.111	0.051	0.028	98.869	8.487	33.47	99.719	68.363	23.839	7.798	100
I5-10 -ilm-223	0.003	44.711	2.942	0	0.051	0	3.309	0.013	1.228	46.864	0.004	0.053	99.177	11.87	36.18	100.367	76.304	12.435	11.261	100
I5-10 -ilm-224	0.012	51.339	0.142	0.249	0.196	0.053	7.612	0.028	0.254	39.903	0.025	0.025	99.837	8.209	32.52	100.66	65.328	27.252	7.42	100
I5-10 -ilm-225	0	50.251	0.144	0.247	0.081	0.047	6.411	0.005	0.316	41.339	0.031	0.004	98.875	8.564	33.63	99.733	68.765	23.357	7.878	100
I5-10 -ilm-226	0	51.389	0.054	0.335	0.184	0	6.607	0.006	0.273	40.672	0.048	0.028	99.595	7.258	34.14	100.323	69.422	23.938	6.639	100
I5-10 -ilm-227	0.01	51.732	0.083	0.12	0.122	0	7.543	0.02	0.299	39.242	0.066	0.035	99.272	7.207	32.76	99.994	66.255	27.187	6.558	100
I5-10 -ilm-228	0	51.487	0.011	0.314	0.201	0.055	7.68	0.011	0.304	38.609	0.054	0.008	98.734	6.976	32.33	99.433	65.774	27.841	6.385	100
I5-10 -ilm-229	0.027	49.702	0.129	0.232	0.264	0.08	6.738	0.016	0.327	41.35	0.048	0.019	98.932	9.756	32.57	99.909	66.516	24.52	8.964	100
I5-10 -ilm-230	0.013	50.83	0.086	0.326	0.203	0.238	6.963	0.046	0.265	40.091	0.04	0.031	99.132	7.445	33.39	99.877	67.941	25.245	6.815	100
I5-10 -ilm-231	0.022	46.958	0.105	0.262	0.432	0.04	5.679	0.002	0.278	44.496	0.029	0.025	98.326	13.914	31.98	99.72	66.127	20.927	12.946	100
I5-10 -ilm-232	0.025	50.935	0.077	0.291	0.21	0.037	6.687	0.018	0.284	40.014	0.056	0	98.632	7.023	33.7	99.336	69.089	24.432	6.478	100
I5-10 -ilm-233	0.003	44.752	0.153	0.356	1.119	0.138	6.001	0	0.286	44.815	0.021	0.032	97.678	16.91	29.6	99.372	61.794	22.324	15.882	100
I5-10 -ilm-234	0	50.158	0.088	0.288	0.149	0.092	6.257	0.021	0.207	41.261	0.02	0.034	98.576	8.172	33.91	99.395	69.576	22.879	7.544	100
I5-10 -ilm-235	0.029	48.436	0.081	0.093	0.123	0.149	5.071	0	0.337	44.479	0	0	98.798	11.05	34.54	99.905	71.145	18.615	10.241	100
I5-10 -ilm-236	0.005	51.705	0.108	0.323	0.157	0	7.512	0.017	0.286	39.181	0.069	0.011	99.375	7.043	32.84	100.08	66.486	27.099	6.415	100
I5-10 -ilm-237	0.027	51.115	0.09	0.536	0.456	0.002	7	0.08	0.207	40.193	0.077	0.038	99.82	7.768	33.2	100.598	67.525	25.368	7.107	100
I5-10 -ilm-238	0.008	52.453	0.112	0.737	0.194	0.178	9.553	0.031	0.275	35.751	0.052	0.055	99.4	6.237	30.14	100.025	60.315	34.07	5.616	100
I5-10 -ilm-239	0	50.737	0.041	0.715	1.29	0	10.042	0.072	0.27	35.39	0.143	0.013	98.713	9.033	27.26	99.618	55.388	36.355	8.257	100
I5-10 -ilm-240	0.01	43.837	0.44	0.044	0.459	0.072	3.737	0.002	0.527	48.644	0.035	0.03	97.838	17.644	32.77	99.606	69.18	14.06	16.76	100
I5-10 -ilm-241	0.014	51.26	0.12	0.333	0.164	0.085	7.127	0.003	0.199	40.148	0.066	0.019	99.538	7.509	33.39	100.291	67.498	25.673	6.829	100
I5-10 -ilm-242	0.003	45.459	0.114	0.222	0.536	0.068	6.136	0.002	0.298	45.712	0.055	0.015	98.62	17.676	29.81	100.391	61.213	22.456	16.331	100
I5-10 -ilm-243	0.028	44.823	0.184	0.167	0.365	0.047	4.873	0.003	0.232	47.225	0.035	0.004	97.987	17.305	31.65	99.72	65.777	18.045	16.178	100
I5-10 -ilm-244	0.016	49.031	0.147	0.082	0.631	0.188	6.607	0.018	0.318	41.876	0.073	0.045	99.03	10.599	32.34	100.092	66.159	24.085	9.756	100
I5-10 -ilm-245	0.025	51.858	0.138	0.278	0.118	0	6.519	0.011	0.295	40.561	0.045	0.029	99.877	6.386	34.82	100.517	70.611	23.562	5.827	100
I5-10 -ilm-246	0.019	51.73	0.122	0.349	0.191	0.036	7.388	0.016	0.244	39.51	0.069	0.023	99.697	7.001	33.21	100.398	67.057	26.583	6.36	100
I5-10 -ilm-247	0.02	50.36	0.079	0.341	0.164	0.188	6.467	0.003	0.23	41.11	0.042	0.046	99.049	8.066	33.85	99.857	69.08	23.515	7.405	100
I5-10 -ilm-248	0.009	51.121	0.045	0.264	0.148	0	7.131	0.01	0.276	39.948	0.081	0.043	99.075	7.817	32.91	99.858	66.982	25.86	7.158	100
I5-10 -ilm-249	0	50.703	0.118	0.37	0.228	0	6.63	0.007	0.253	40.541	0.063	0.043	98.958	7.778	33.54	99.737	68.655	24.183	7.162	100
I5-10 -ilm-250	0	50.64	0.077	0.313	0.093	0.08	6.391	0	0.286	41.126	0.002	0.016	99.024	7.86	34.05	99.811	69.527	23.253	7.22	100
I5-10 -ilm-251	0.011	50.812	0.056	0.496	0.055	0.079	7.271	0.028	0.269	39.785	0.073	0.049	98.983	8.084	32.51	99.793	66.207	26.386	7.406	100
I5-10 -ilm-252	0.013	48.619	0.081	0.156	0.058	0	5.51	0.021	0.319	44.337	0.034	0.013	99.162	11.921	33.61	100.357	68.884	20.124	10.992	100
I5-10 -ilm-253	0.016	48.186	0.128	0.935	0.216	0.244	7.325	0.067	0.252	41.111	0.037	0.033	98.549	11.888	30.41	99.74	62.304	26.739	10.957	100
I5-10 -ilm-254	0	48.643	0.108	0	0.054	0.148	5.306	0.01	0.277	43.955	0.042	0.017	98.56	10.745	34.29	99.636	70.583	19.466	9.952	100
I5-10 -ilm-255	0	50.927	0.083	0.329	0.153	0.03	7.726	0.014	0.274	39.191	0.041	0.024	98.791	8.204	31.81	99.613	64.563	27.945	7.492	100
I5-10 -ilm-256	0.011	44.269	3.024	0	0.117	0	3.142	0	1.172	47.025	0.028	0.097	98.886	12.04	36.19	100.092	76.666	11.86	11.474	100
I5-10 -ilm-257	0.025	50.938	0.179	0.258	0.103	0.141	7.474	0.012	0.328	39.371	0.057	0.013	98.899	7.614	32.52	99.662	66.011	27.035	6.954	100
I5-10 -ilm-258	0.019	50.842	0.127	0.233	0.124	0.004	7.124	0.046	0.257	39.844	0.095	0.059	98.773	7.907	32.73	99.566	66.82	25.917	7.263	100
I5-10 -ilm-259	0.013	50.607	0.104	0.291	0.119	0.124	6.741	0.013	0.297	40.793	0.044	0.054	99.199	8.203	33.41	100.021	68.027	24.459	7.514	100
I5-10 -ilm-260	0.007	48.141	0.156	0.287	0.167	0	4.439	0	0.288	45.53	0.036	0.032	99.083	11.478	35.2	100.233	72.917	16.386	10.697	100
I5-10 -ilm-261	0.021	52.82	0.09	0.368	0.218	0.099	8.086	0.029	0.21	37.907	0.063	0.073	99.983	5.461	32.99	100.53	66.172	28.9	4.928	100
I5-10 -ilm-262	0.016	43.958	0.241	0.181	0.405	0.232	4.804	0.007	0.227	47.702	0.042	0	97.814	18.188	31.34	99.636	65.175	17.805	17.02	100
I5-10 -ilm-263	0.019	51.804	0.154	0.327	0.162	0	6.803	0.087	0.372	40.37	0.065	0.037	100.2	7.004	34.07	100.902	69.044	24.57	6.386	100

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
I5-10 -ilm-264	0.018	50.023	0.122	0.227	0.188	0.014	5.964	0.007	0.196	42.124	0.01	0	98.892	8.679	34.32	99.762	70.25	21.757	7.993	100
I5-10 -ilm-265	0.01	44.298	0.195	0.206	0.284	0.09	4.206	0	0.206	48.493	0.075	0.009	98.071	17.867	32.42	99.861	67.604	15.632	16.764	100
I5-10 -ilm-266	0.001	51.613	0.056	0.285	0.122	0.172	7.844	0.07	0.345	38.658	0.011	0.017	99.194	7.062	32.3	99.901	65.315	28.261	6.424	100
I5-10 -ilm-267	0	42.803	0.28	0.206	0.128	0.016	4.728	0	0.391	49.255	0.01	0.017	97.832	21.429	29.97	99.979	62.393	17.537	20.069	100
I5-10 -ilm-268	0.014	50.093	0.064	0.275	0.098	0.045	6.154	0.021	0.259	41.289	0.016	0.039	98.367	8.214	33.9	99.19	69.806	22.583	7.611	100
I5-10 -ilm-269	0.02	49.928	0.143	0.417	0.461	0.182	6.842	0.064	0.275	40.092	0.099	0.021	98.546	8.221	32.7	99.37	67.292	25.095	7.612	100
I5-10 -ilm-270	0.007	43.516	0.299	0.224	0.519	0.329	5.03	0.001	0.291	47.783	0.031	0.007	98.036	18.999	30.69	99.94	63.668	18.598	17.734	100
I5-10 -ilm-271	0	45.013	0.196	0.154	0.491	0.209	4.91	0.005	0.226	46.76	0.005	0.012	97.98	16.38	32.02	99.621	66.516	18.175	15.309	100
I5-10 -ilm-272	0.024	48.041	0.051	0.397	0.024	0	6.982	0.042	0.476	42.095	0.018	0.03	98.179	13.15	30.26	99.497	62.241	25.59	12.168	100
I5-10 -ilm-273	0	50.759	0.072	0.241	0.121	0.014	7.174	0.027	0.205	40.048	0.101	0.021	98.783	8.275	32.6	99.613	66.387	26.032	7.581	100
I5-10 -ilm-274	0.008	51.118	0.068	0.393	0.175	0.053	6.472	0.027	0.322	39.869	0.04	0.011	98.555	6.307	34.19	99.187	70.409	23.748	5.843	100
I5-10 -ilm-275	0.004	46.831	0.303	0.227	0.083	0.117	4.062	0.007	0.399	46.495	0.033	0.013	98.572	12.847	34.94	99.86	72.853	15.094	12.053	100
I5-10 -ilm-276	0	47.868	0.189	0.387	0.749	0	6.63	0.002	0.216	42.367	0.133	0	98.541	12.538	31.09	99.797	64.04	24.339	11.621	100
I5-10 -ilm-277	0	42.657	0.222	0.249	0.091	0.344	4.468	0.008	0.203	49.503	0.007	0.012	97.764	20.622	30.95	99.83	64.224	16.523	19.254	100
I5-10 -ilm-278	0	50.842	0.136	0.295	0.126	0.149	6.87	0.002	0.251	40.552	0.024	0.005	99.252	7.752	33.58	100.029	68.099	24.828	7.073	100
I5-10 -ilm-279	0.036	49.756	0.12	0.246	0.131	0.089	6.384	0.022	0.256	41.429	0.073	0.049	98.591	9.054	33.28	99.498	68.297	23.343	8.359	100
I5-10 -ilm-280	0	42.707	3.49	0	0.175	0	3.299	0.023	1.209	47.463	0.001	0.073	98.44	13.873	34.98	99.83	74.268	12.48	13.252	100

I5-10 Clinopyroxene

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total	
I5-10 -pyx-1	52.22	0.73	5.8	0	15.07	18.01	0.11	5.92	0.01	1.65	0	99.53	Clinopyroxene
I5-10 -pyx-2	52.5	0.75	5.48	0.02	14.8	17.69	0.07	6.69	0.03	1.89	0.02	99.94	Clinopyroxene
I5-10 -pyx-3	53.72	0.47	2.25	0.05	15.76	18.58	0.14	7.11	0.06	1.4	0	99.53	Clinopyroxene
I5-10 -pyx-4	52.48	0.67	5.2	0.03	14.83	18.19	0.08	6.52	0.02	1.68	0.01	99.72	Clinopyroxene
I5-10 -pyx-5	52.47	0.7	5.48	0.05	15.07	18.09	0.14	6	0.05	1.69	0	99.74	Clinopyroxene
I5-10 -pyx-6	52.13	0.73	5.81	0	14.76	17.76	0.14	6.74	0.06	1.75	0	99.88	Clinopyroxene
I5-10 -pyx-7	52.39	0.63	4.88	0	15.32	18.38	0.09	6.04	0.02	1.55	0.01	99.3	Clinopyroxene
I5-10 -pyx-8	52.28	0.78	5.36	0.07	13.44	18.22	0.14	7.29	0	2.15	0.01	99.75	Clinopyroxene
I5-10 -pyx-9	52.12	0.77	5.47	0.04	14.85	17.66	0.14	6.38	0.01	1.78	0.01	99.25	Clinopyroxene
I5-10 -pyx-10	52.39	0.65	5.6	0	15.23	17.51	0.09	6.38	0.02	1.75	0.01	99.63	Clinopyroxene
I5-10 -pyx-11	52.48	0.7	5.6	0.06	15.27	17.97	0.09	6.03	0.01	1.7	0	99.9	Clinopyroxene
I5-10 -pyx-12	52.69	0.65	5.29	0	15.19	17.94	0.15	5.97	0.02	1.78	0.01	99.68	Clinopyroxene
I5-10 -pyx-13	52.61	0.66	4.88	0.02	14.09	18.57	0.12	6.79	0	1.85	0.01	99.59	Clinopyroxene
I5-10 -pyx-14	52.79	0.54	5.19	0	15.99	17.29	0.14	6.04	0.03	1.54	0.01	99.57	Clinopyroxene
I5-10 -pyx-15	52.92	0.67	4.99	0.02	15.38	18.3	0.14	6.1	0	1.57	0	100.1	Clinopyroxene
I5-10 -pyx-16	52.27	0.75	5.46	0.05	15.07	17.88	0.13	5.98	0.02	1.73	0.01	99.35	Clinopyroxene
I5-10 -pyx-17	52.69	0.68	4.9	0	15.42	18.28	0.09	6.1	0.04	1.58	0.01	99.8	Clinopyroxene
I5-10 -pyx-18	52.6	0.86	5.47	0.04	13.9	17.85	0.12	6.89	0.05	2.11	0.01	99.9	Clinopyroxene
I5-10 -pyx-19	52.94	0.72	4.57	0	15.29	17.83	0.16	6.48	0.04	1.75	0	99.79	Clinopyroxene
I5-10 -pyx-20	52.83	0.58	4.86	0	15.51	18.1	0.11	5.91	0.05	1.64	0.01	99.59	Clinopyroxene
I5-10 -pyx-21	52.14	0.85	5.5	0.02	13.85	17.66	0.11	7.4	0.02	2.06	0.01	99.63	Clinopyroxene
I5-10 -pyx-22	52.84	0.68	4.96	0.01	15.44	18.19	0.11	6.21	0.03	1.61	0.01	100.09	Clinopyroxene
I5-10 -pyx-23	52.82	0.61	4.52	0	15.16	17.89	0.15	7.08	0	1.66	0.01	99.91	Clinopyroxene
I5-10 -pyx-24	52.48	0.72	5.67	0.03	15.04	17.87	0.15	6.22	0.01	1.7	0	99.91	Clinopyroxene
I5-10 -pyx-25	52.23	0.83	5.46	0	14	17.95	0.09	7.04	0	2.05	0	99.66	Clinopyroxene
I5-10 -pyx-26	52.73	0.76	5.49	0.02	15.11	18.25	0.1	6.01	0.03	1.68	0.01	100.2	Clinopyroxene
I5-10 -pyx-27	52.69	0.66	4.85	0	15.39	18.35	0.1	6.13	0.03	1.56	0.01	99.77	Clinopyroxene
I5-10 -pyx-28	53.14	0.54	4.42	0.06	15.9	18.28	0.09	5.51	0.02	1.55	0.01	99.52	Clinopyroxene
I5-10 -pyx-29	52.77	0.68	4.97	0.03	15.42	18.44	0.09	6.09	0.01	1.55	0.01	100.05	Clinopyroxene
I5-10 -pyx-30	51.69	0.82	5.47	0	13.99	17.64	0.11	7.5	0	2.02	0.01	99.25	Clinopyroxene
I5-10 -pyx-31	52.11	0.79	5.92	0.02	14.52	17.41	0.14	6.88	0	1.87	0.01	99.68	Clinopyroxene
I5-10 -pyx-32	52.7	0.64	4.87	0.07	15.3	18.32	0.11	6.02	0.03	1.57	0.01	99.63	Clinopyroxene
I5-10 -pyx-33	52.85	0.68	5.25	0.02	15.51	17.84	0.09	6.1	0.05	1.63	0	100.02	Clinopyroxene
I5-10 -pyx-34	52.68	0.66	5.44	0	14.95	17.31	0.1	6.93	0.01	1.8	0	99.87	Clinopyroxene
I5-10 -pyx-35	52.55	0.65	5.08	0.01	14.67	17.48	0.08	6.75	0.03	1.83	0.02	99.14	Clinopyroxene
I5-10 -pyx-36	52.62	0.7	5.41	0.04	15.14	18.06	0.13	5.91	0	1.68	0.01	99.7	Clinopyroxene
I5-10 -pyx-37	52.96	0.54	5.06	0.06	15.72	16.54	0.09	7.38	0.06	1.71	0.01	100.11	Clinopyroxene
I5-10 -pyx-38	52.5	0.7	5.19	0	14.83	17.41	0.13	6.99	0	1.86	0.01	99.63	Clinopyroxene
I5-10 -pyx-39	52.77	0.7	5.24	0.1	15.34	18.1	0.17	5.98	0.03	1.69	0	100.11	Clinopyroxene
I5-10 -pyx-40	52.69	0.73	4.87	0	14.77	18.46	0.1	6.92	0.01	1.75	0.01	100.3	Clinopyroxene
I5-10 -pyx-41	52.55	0.74	5.34	0.07	15.16	17.89	0.11	6.04	0.05	1.65	0.01	99.63	Clinopyroxene
I5-10 -pyx-42	52.62	0.72	5.43	0.04	15.1	18.18	0.06	6.19	0.03	1.67	0.01	100.05	Clinopyroxene
I5-10 -pyx-43	53.04	0.77	5.61	0.02	15.39	18.03	0.12	6.28	0.02	1.72	0.01	101	Clinopyroxene
I5-10 -pyx-44	52.73	0.77	5.38	0.03	14.69	18.53	0.12	6.1	0.02	1.83	0.01	100.22	Clinopyroxene
I5-10 -pyx-45	52.7	0.64	5.26	0.07	15.4	17.34	0.08	6.93	0.02	1.69	0.01	100.14	Clinopyroxene
I5-10 -pyx-46	52.48	0.71	5.55	0	15.2	18.13	0.1	6.18	0.02	1.7	0.01	100.08	Clinopyroxene
I5-10 -pyx-47	52.96	0.58	4.9	0.05	15.48	17.78	0.11	6.46	0	1.65	0.01	99.98	Clinopyroxene
I5-10 -pyx-48	52.78	0.66	4.88	0.04	15.49	18.45	0.07	5.95	0.06	1.6	0	99.99	Clinopyroxene
I5-10 -pyx-49	52.09	0.74	5.83	0.03	14.76	17.69	0.13	6.85	0.01	1.78	0	99.92	Clinopyroxene
I5-10 -pyx-50	53.03	0.52	4.74	0.01	15.79	17.56	0.13	6.42	0.04	1.62	0.01	99.87	Clinopyroxene
I5-10 -pyx-51	52.33	0.89	5.84	0.02	14.43	17.75	0.11	6.95	0.04	1.87	0	100.22	Clinopyroxene
I5-10 -pyx-52	52.6	0.82	5.2	0	14.98	18.04	0.11	5.92	0.05	1.79	0.01	99.51	Clinopyroxene
I5-10 -pyx-53	52.89	0.51	4.83	0.09	16.26	17.44	0.14	5.87	0.02	1.5	0.02	99.57	Clinopyroxene
I5-10 -pyx-54	52.6	0.77	4.67	0.03	14.28	18.14	0.16	7.31	0.03	1.83	0	99.82	Clinopyroxene
I5-10 -pyx-55	52.87	0.59	5.01	0.08	15.95	17.79	0.09	6.2	0.02	1.58	0.01	100.18	Clinopyroxene
I5-10 -pyx-56	52.95	0.57	4.93	0.02	15.53	17.8	0.14	6.13	0.03	1.61	0.01	99.72	Clinopyroxene
I5-10 -pyx-57	52.82	0.63	5.02	0.03	15.36	18.36	0.14	5.96	0.04	1.6	0.02	99.99	Clinopyroxene
I5-10 -pyx-58	52.75	0.69	4.97	0.04	15.29	18.37	0.11	5.94	0.02	1.53	0	99.71	Clinopyroxene
I5-10 -pyx-59	52.75	0.59	4.67	0.02	14.89	18.34	0.15	6.4	0.01	1.73	0.01	99.56	Clinopyroxene
I5-10 -pyx-60	54.07	0.11	0.2	0	14.56	20.84	0.16	8.19	0	1.49	0	99.61	Clinopyroxene
I5-10 -pyx-61	52.94	0.6	5.27	0.04	15.87	17.5	0.11	6.03	0.08	1.69	0	100.13	Clinopyroxene

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total	
I5-10 -pyx-62	52.54	0.81	5.41	0.04	14.28	17.77	0.1	6.79	0.03	1.98	0.01	99.75	Clinopyroxene
I5-10 -pyx-63	52.8	0.77	5.46	0.02	14.88	18.09	0.12	6.91	0.03	1.84	0.02	100.94	Clinopyroxene
I5-10 -pyx-64	52.4	0.74	5.52	0.02	15.13	18.16	0.12	6.08	0.02	1.7	0.01	99.88	Clinopyroxene
I5-10 -pyx-65	52.37	0.7	5.17	0.05	15.41	17.92	0.1	6.1	0	1.68	0.01	99.51	Clinopyroxene
I5-10 -pyx-66	52.9	0.5	5.09	0.09	15.57	17.32	0.11	6.46	0.09	1.67	0.01	99.8	Clinopyroxene
I5-10 -pyx-67	52.94	0.64	5.28	0	15.35	17.86	0.11	6.51	0.02	1.65	0.01	100.36	Clinopyroxene
I5-10 -pyx-68	52.73	0.7	5.1	0.04	15.27	17.06	0.14	6.95	0.05	1.75	0.01	99.79	Clinopyroxene
I5-10 -pyx-69	52.63	0.69	5.56	0.02	15.28	17.33	0.11	6.36	0.01	1.79	0.01	99.78	Clinopyroxene
I5-10 -pyx-70	52.45	0.72	5.54	0.01	15.01	17.99	0.16	6.09	0	1.7	0.01	99.67	Clinopyroxene
I5-10 -pyx-71	52.45	0.73	5.78	0.03	15.22	17.87	0.08	5.78	0.04	1.63	0.01	99.62	Clinopyroxene
I5-10 -pyx-72	52.63	0.69	4.88	0.01	15.48	18.27	0.17	6.16	0.02	1.55	0.01	99.85	Clinopyroxene
I5-10 -pyx-73	52.83	0.62	5.3	0.02	15.38	17.52	0.09	6.23	0.05	1.68	0.01	99.72	Clinopyroxene
I5-10 -pyx-74	52.82	0.69	4.97	0.01	15.37	18.16	0.09	6.32	0.05	1.58	0	100.08	Clinopyroxene
I5-10 -pyx-75	52.5	0.73	4.94	0.02	14.4	18.53	0.11	6.82	0.02	1.76	0.01	99.84	Clinopyroxene
I5-10 -pyx-76	52.31	0.73	5.28	0.05	15.03	18.11	0.12	6.07	0.01	1.69	0.01	99.4	Clinopyroxene
I5-10 -pyx-77	52.48	0.55	4.79	0.87	16.44	19.16	0.1	4.09	0.1	1.14	0	99.73	Clinopyroxene
I5-10 -pyx-78	53.87	0.26	3.05	0.33	16.46	21.22	0.1	3.32	0.03	1.12	0	99.74	Clinopyroxene
I5-10 -pyx-79	53.78	0.17	3.51	1.09	16.22	20.9	0.08	2.69	0.02	1.34	0	99.79	Clinopyroxene
I5-10 -pyx-80	53.71	0.26	3.46	0.81	16.59	21.31	0.03	2.79	0.08	1.2	0.01	100.23	Clinopyroxene
I5-10 -pyx-81	53.34	0.29	3.34	1	16.29	21.23	0.08	2.77	0.02	1.2	0	99.57	Clinopyroxene
I5-10 -pyx-82	53.85	0.03	2.48	1.2	16.88	21.43	0.07	2.28	0.08	1.13	0	99.43	Clinopyroxene
I5-10 -pyx-83	53.7	0.29	3.32	0.84	16.3	21.43	0.09	2.84	0.07	1.16	0	100.04	Clinopyroxene
I5-10 -pyx-84	52.86	0.41	4.19	0.41	16.84	19.22	0.1	4.15	0.06	1.19	0.01	99.45	Clinopyroxene
I5-10 -pyx-85	54.28	0.11	2.39	1.3	16.61	21.49	0.08	2.44	0.03	1.17	0	99.9	Clinopyroxene
I5-10 -pyx-86	53.48	0.3	3.47	0.81	16.23	21.28	0.08	2.87	0	1.18	0	99.7	Clinopyroxene
I5-10 -pyx-87	52.66	0.51	4.97	1.23	16.5	18.9	0.11	3.89	0.04	1.34	0.01	100.17	Clinopyroxene
I5-10 -pyx-88	53.49	0.28	3.36	0.74	16.42	21.45	0.07	2.87	0.03	1.16	0.01	99.89	Clinopyroxene
I5-10 -pyx-89	53.39	0.19	3.41	1.18	17.01	20.69	0.08	2.65	0.03	1.03	0	99.65	Clinopyroxene
I5-10 -pyx-90	53.79	0.17	3.27	1.11	16.62	21.5	0.05	2.47	0.01	1.09	0	100.08	Clinopyroxene
I5-10 -pyx-91	50.1	0.84	7.4	1.21	15.63	19.65	0.08	4.08	0.05	0.88	0.01	99.94	Clinopyroxene
I5-10 -pyx-92	54.26	0.08	0.16	0.03	15.12	21.04	0.18	7.93	0	1.12	0	99.91	Clinopyroxene
I5-10 -pyx-93	54	0.27	3.39	0.84	16.28	21.56	0.07	2.78	0.03	1.14	0	100.38	Clinopyroxene
I5-10 -pyx-94	53.17	0.25	3.46	1.14	16.57	21.26	0.06	2.77	0.03	1.2	0.01	99.9	Clinopyroxene
I5-10 -pyx-95	53.59	0.28	3.52	1.1	16.28	21.19	0.11	2.79	0.08	1.23	0	100.16	Clinopyroxene
I5-10 -pyx-96	54.39	0.03	2.22	1.48	16.58	21.13	0.08	2.38	0.07	1.29	0	99.66	Clinopyroxene
I5-10 -pyx-97	53.45	0.03	3.35	1.43	17.19	20.88	0.05	2.37	0.04	1.01	0	99.81	Clinopyroxene
I5-10 -pyx-98	51.92	0.58	5.55	0.8	17.57	18.41	0.1	4.12	0.05	0.91	0.01	100.03	Clinopyroxene
I5-10 -pyx-99	53.23	0.23	3.77	1.57	16.36	20.18	0.09	2.8	0.03	1.38	0	99.65	Clinopyroxene
I5-10 -pyx-100	53.09	0.2	3.52	1.18	16.3	21.13	0.06	2.65	0.04	1.26	0	99.44	Clinopyroxene
I5-10 -pyx-101	52.81	0.5	4.99	1.24	16.37	19.25	0.08	3.3	0.06	1.46	0	100.06	Clinopyroxene
I5-10 -pyx-102	53.37	0.24	3.53	1.08	16.34	20.81	0.06	2.76	0.05	1.2	0	99.44	Clinopyroxene
I5-10 -pyx-103	53.24	0.18	3.56	1.31	17.08	20.38	0.08	2.82	0.06	0.99	0	99.7	Clinopyroxene
I5-10 -pyx-104	54.43	0.07	2.32	1.3	16.97	21.28	0.07	2.41	0.05	1.25	0	100.15	Clinopyroxene
I5-10 -pyx-105	53.8	0.27	3.48	0.79	16.26	21.02	0.1	2.97	0.04	1.26	0	100	Clinopyroxene
I5-10 -pyx-106	53.48	0.12	3.63	1.3	17.25	20.66	0.07	2.96	0.06	0.87	0.01	100.41	Clinopyroxene
I5-10 -pyx-107	54.07	0.1	0.08	0	14.95	21.4	0.09	7.39	0	1.13	0.01	99.22	Clinopyroxene
I5-10 -pyx-108	52.92	0.52	4.77	0.8	16.67	19.07	0.07	3.84	0.04	1.26	0.01	99.97	Clinopyroxene
I5-10 -pyx-109	52.7	0.46	4.94	0.72	16.76	19.23	0.1	3.92	0.12	1.21	0.01	100.16	Clinopyroxene
I5-10 -pyx-110	53.17	0.26	4.16	1.38	16.23	19.68	0.09	2.8	0.03	1.61	0.02	99.42	Clinopyroxene
I5-10 -pyx-111	53.03	0.31	3.61	1.17	17.42	20.44	0.09	2.94	0.06	0.87	0.02	99.96	Clinopyroxene
I5-10 -pyx-112	52.01	0.54	5.36	1.1	16.65	19	0.13	4.13	0.03	1.17	0.01	100.15	Clinopyroxene
I5-10 -pyx-113	53.53	0.08	3.22	1.27	17.04	20.76	0.09	2.44	0.04	1.11	0	99.58	Clinopyroxene
I5-10 -pyx-114	53.82	0.18	3.37	0.84	16.55	21.3	0.11	2.68	0.05	1.16	0	100.06	Clinopyroxene
I5-10 -pyx-115	52.48	0.57	4.76	1.73	16.58	19.01	0.08	3.22	0.12	1.34	0	99.89	Clinopyroxene
I5-10 -pyx-116	53.33	0.34	3.38	1.14	16.25	21.26	0.06	2.84	0	1.19	0	99.78	Clinopyroxene
I5-10 -pyx-117	54.13	0.19	2.88	1.32	16.55	20.82	0.04	2.38	0.13	1.37	0	99.81	Clinopyroxene
I5-10 -pyx-118	54	0.08	3.02	0.94	16.68	21.5	0.07	2.55	0.02	1.17	0	100.03	Clinopyroxene
I5-10 -pyx-119	53.49	0.32	1.78	0.06	14.18	19.43	0.14	8.02	0.02	1.76	0	99.19	Clinopyroxene
I5-10 -pyx-120	53.22	0.13	4.21	1.44	16.96	19.75	0.06	3.01	0.04	1.11	0.01	99.93	Clinopyroxene
I5-10 -pyx-121	52.96	0.32	4.24	1.5	16.13	19.81	0.12	3.12	0.02	1.5	0	99.74	Clinopyroxene
I5-10 -pyx-122	53.71	0.28	3.52	0.86	16.45	21.42	0.07	2.8	0.05	1.18	0	100.34	Clinopyroxene
I5-10 -pyx-123	53.33	0.18	3.73	1.48	16.31	20.7	0.05	2.63	0.08	1.29	0	99.78	Clinopyroxene

I5-10 Clinopyroxene

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total	
I5-10 -pyx-124	52.79	0.32	4.32	1.5	16.37	19.92	0.13	3.11	0.04	1.26	0.01	99.78	Clinopyroxene
I5-10 -pyx-125	52.74	0.46	4.98	1.02	16.79	18.97	0.05	3.19	0.05	1.29	0.01	99.54	Clinopyroxene
I5-10 -pyx-126	52.47	0.68	4.91	0.66	16.6	18.71	0.08	4.51	0.09	1.27	0.01	99.99	Clinopyroxene
I5-10 -pyx-127	53.55	0.13	3.5	1.22	16.46	21.21	0.05	2.57	0.07	1.24	0	99.99	Clinopyroxene
I5-10 -pyx-128	53.34	0.38	3.68	0.79	16.33	21.15	0.09	2.92	0.02	1.24	0	99.96	Clinopyroxene
I5-10 -pyx-129	53.18	0.27	3.73	0.95	16.15	21.12	0.06	2.6	0.05	1.27	0	99.39	Clinopyroxene
I5-10 -pyx-130	53.47	0.27	3.64	1.1	16.49	21.36	0.08	2.83	0.08	1.2	0.01	100.54	Clinopyroxene
I5-10 -pyx-131	53.03	0.19	4.62	1.35	16.69	19.45	0.07	2.85	0.02	1.39	0	99.67	Clinopyroxene
I5-10 -pyx-132	51.27	0.83	6.26	0.55	16.62	19.42	0.09	4.16	0	0.79	0	100	Clinopyroxene
I5-10 -pyx-133	53.58	0.27	3.63	0.87	16.39	21.27	0.04	2.82	0.01	1.17	0	100.05	Clinopyroxene
I5-10 -pyx-134	52.64	0.39	4.93	0.88	16.03	20.66	0.12	3.23	0.01	1.3	0	100.19	Clinopyroxene
I5-10 -pyx-135	52.78	0.51	4.3	1.54	16.61	19.45	0.06	3.21	0.05	1.34	0.01	99.87	Clinopyroxene
I5-10 -pyx-136	53.44	0.22	3.26	0.94	16.37	21.27	0.05	2.72	0.06	1.13	0	99.47	Clinopyroxene
I5-10 -pyx-137	53.58	0.27	3.51	1.18	16.21	20.79	0.08	2.74	0.04	1.32	0.01	99.73	Clinopyroxene
I5-10 -pyx-138	53.6	0.16	3.58	1.17	16.32	20.94	0.06	2.59	0.03	1.29	0	99.75	Clinopyroxene
I5-10 -pyx-139	52.93	0.44	4.81	1.06	16.67	19.08	0.09	3.36	0.07	1.3	0	99.81	Clinopyroxene
I5-10 -pyx-140	52.51	0.46	5.19	0.57	17.27	18.96	0.08	3.31	0.09	1.19	0.01	99.63	Clinopyroxene
I5-10 -pyx-141	53.58	0.34	3.49	0.86	16.39	21.22	0.12	2.78	0	1.16	0	99.94	Clinopyroxene
I5-10 -pyx-142	53.69	0.13	3.08	1.05	16.61	21.69	0.11	2.51	0.03	1.04	0	99.92	Clinopyroxene
I5-10 -pyx-143	52.37	0.35	4.64	1.07	17.97	18.09	0.12	4.17	0.05	0.76	0.01	99.59	Clinopyroxene
I5-10 -pyx-144	53.12	0.48	5.39	0.92	16.2	18.38	0.09	3.53	0.07	1.8	0.01	99.99	Clinopyroxene
I5-10 -pyx-145	53.8	0.17	3.26	1.02	16.68	21.61	0.08	2.35	0.08	1.03	0	100.05	Clinopyroxene
I5-10 -pyx-146	54.28	0.03	2.36	1.37	16.76	21.57	0.09	2.18	0.04	1.16	0	99.83	Clinopyroxene
I5-10 -pyx-147	53.3	0.19	3.76	1.16	16.82	20.79	0.08	2.55	0.1	1.08	0.01	99.85	Clinopyroxene
I5-10 -pyx-148	53.02	0.5	5.33	1.14	16.51	19.05	0.12	3.42	0.05	1.26	0.01	100.41	Clinopyroxene
I5-10 -pyx-149	53.37	0.17	4.47	1.17	16.63	19.64	0.12	3.06	0.05	1.21	0.01	99.9	Clinopyroxene
I5-10 -pyx-150	53.65	0.24	3.63	1.07	16.48	21.15	0.06	2.93	0.05	1.18	0	100.44	Clinopyroxene
I5-10 -pyx-151	54.58	0.13	1.68	0.35	13.59	21.37	0.18	6.02	0	2.16	0.01	100.07	Clinopyroxene
I5-10 -pyx-152	52.59	0.51	4.62	1.6	16.51	19.45	0.14	3.14	0.06	1.31	0.01	99.95	Clinopyroxene
I5-10 -pyx-153	54.42	0.12	1.94	1.46	16.85	21.67	0.07	2.07	0.05	1.18	0	99.82	Clinopyroxene
I5-10 -pyx-154	53.56	0.34	3.3	0.85	16.21	21.51	0.03	2.92	0.04	1.11	0	99.88	Clinopyroxene
I5-10 -pyx-155	53.48	0.28	3.64	1.36	16.31	21.08	0.08	2.63	0.02	1.29	0	100.16	Clinopyroxene
I5-10 -pyx-156	53.46	0.21	3.29	1.24	16.32	21.15	0.06	2.58	0.01	1.23	0	99.56	Clinopyroxene
I5-10 -pyx-157	52.59	0.59	4.77	0.94	16.52	18.91	0.09	4.19	0.04	1.18	0.01	99.83	Clinopyroxene
I5-10 -pyx-158	54.6	0.05	2.28	1.43	16.7	21.31	0.11	2.26	0.05	1.33	0	100.11	Clinopyroxene
I5-10 -pyx-159	52.57	0.51	5.27	0.91	15.94	18.47	0.13	4.76	0.04	1.42	0	100.03	Clinopyroxene
I5-10 -pyx-160	53.58	0.17	3.43	1.13	16.44	21.36	0.11	2.39	0.02	1.15	0	99.79	Clinopyroxene
I5-10 -pyx-161	52.27	0.56	5.14	1	16.25	19.03	0.08	3.97	0.06	1.17	0	99.52	Clinopyroxene
I5-10 -pyx-162	53.54	0.26	3.87	1.05	16.3	21.21	0.05	2.82	0.09	1.25	0	100.44	Clinopyroxene
I5-10 -pyx-163	54.2	0.15	2.59	1.59	16.73	21.4	0.12	2.13	0.02	1.3	0	100.24	Clinopyroxene
I5-10 -pyx-164	53.95	0.21	3.98	1.06	16.52	21.65	0.04	2.32	0.02	1.14	0.01	100.91	Clinopyroxene
I5-10 -pyx-165	53.36	0.29	3.8	1.12	16.28	21.16	0.1	2.69	0.03	1.26	0.01	100.09	Clinopyroxene
I5-10 -pyx-166	53.27	0.45	3.91	0.71	16.45	21.12	0.09	3.01	0	1.24	0	100.25	Clinopyroxene
I5-10 -pyx-167	53.6	0.33	3.84	0.93	16.17	21.25	0.03	2.57	0.02	1.25	0	99.98	Clinopyroxene
I5-10 -pyx-168	53.83	0.19	0.35	0.01	14.68	19.75	0.18	9.19	0	1.36	0.01	99.55	Clinopyroxene
I5-10 -pyx-169	53.35	0.24	3.02	0.63	15.15	22.56	0.11	4.14	0.02	1.01	0.01	100.24	Clinopyroxene
I5-10 -pyx-170	53.47	0.18	3.17	0.81	16.39	21.4	0.13	2.88	0.02	1.09	0	99.52	Clinopyroxene
I5-10 -pyx-171	53.8	0.05	2.91	1.05	17.26	21.32	0.08	2.72	0.02	0.82	0.01	100.03	Clinopyroxene
I5-10 -pyx-172	52.06	0.28	5.7	1.59	17.99	18.38	0.08	3.54	0.06	0.78	0.01	100.47	Clinopyroxene
I5-10 -pyx-173	54.13	0.11	0.35	0	15.18	20.2	0.14	8.74	0	1.07	0	99.9	Clinopyroxene
I5-10 -pyx-174	51.8	1.28	4.26	0.16	16.73	19.78	0.09	5.13	0.03	0.76	0.01	100.02	Clinopyroxene
I5-10 -pyx-175	54.19	0.11	0.15	0.02	14.73	21.18	0.16	7.61	0.03	1.33	0	99.5	Clinopyroxene
I5-10 -pyx-176	53.84	0.15	0.17	0.01	15.05	21.05	0.13	7.56	0	1.25	0	99.21	Clinopyroxene
I5-10 -pyx-177	54.17	0.15	0.21	0	14.64	20.55	0.2	8.59	0	1.39	0.01	99.91	Clinopyroxene
I5-10 -pyx-178	54.01	0.2	0.8	0	15.63	21.12	0.14	6.52	0	1.1	0	99.52	Clinopyroxene
I5-10 -pyx-179	53.95	0.23	0.64	0.02	15	19.97	0.17	8	0	1.32	0	99.31	Clinopyroxene
I5-10 -pyx-180	54	0.14	0.82	0	15.31	20.79	0.14	7.18	0.07	1.11	0	99.55	Clinopyroxene
I5-10 -pyx-181	53.99	0.16	0.3	0	14.96	19.94	0.12	8.51	0	1.45	0	99.43	Clinopyroxene
I5-10 -pyx-182	53.48	0.43	2.89	0.09	16.11	18.04	0.14	7.03	0	1.36	0.01	99.59	Clinopyroxene
I5-10 -pyx-183	53.86	0.54	2.6	0.07	15.06	19.86	0.1	6.96	0.03	1.55	0.01	100.66	Clinopyroxene
I5-10 -pyx-184	54.1	0.13	0	0	14.85	20.46	0.2	8.44	0.01	1.21	0.01	99.41	Clinopyroxene
I5-10 -pyx-185	54.29	0.1	0.02	0.01	15.06	20.69	0.22	8.17	0	1.18	0.01	99.76	Clinopyroxene

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total	
I5-10 -pyx-186	50.58	0.83	7.18	1.04	15.83	20.11	0.1	4.15	0.1	0.8	0	100.71	Clinopyroxene
I5-10 -pyx-187	54.11	0.1	0.28	0.01	15.42	20.46	0.13	8.3	0	1.09	0	99.91	Clinopyroxene
I5-10 -pyx-188	54.31	0.06	0.12	0.01	14.92	20.93	0.19	7.92	0	1.38	0	99.85	Clinopyroxene
I5-10 -pyx-189	54.28	0.11	0.31	0	15.29	20.95	0.19	7.75	0	1.15	0	100.04	Clinopyroxene
I5-10 -pyx-190	48.66	1.66	6.26	0.1	13.37	22.2	0.08	7.29	0.03	0.47	0	100.13	Clinopyroxene
I5-10 -pyx-191	54.15	0.37	2.12	0.08	15.17	19.55	0.12	7.03	0.01	1.56	0	100.16	Clinopyroxene
I5-10 -pyx-192	53.78	0.46	2.72	0.04	15.13	19.2	0.17	6.85	0.01	1.6	0	99.96	Clinopyroxene
I5-10 -pyx-193	54.5	0.12	0.1	0	15.33	20.94	0.18	7.89	0	1.13	0	100.19	Clinopyroxene
I5-10 -pyx-194	54.55	0.13	0	0.05	15.23	20.87	0.16	7.72	0.04	1.12	0	99.87	Clinopyroxene
I5-10 -pyx-195	52.22	0.67	4.78	0.48	16.85	20.63	0.06	3.8	0.01	0.62	0	100.12	Clinopyroxene
I5-10 -pyx-196	41.14	4.92	12.17	0.23	11.16	23.83	0.08	5.94	0.02	0.29	0	99.78	Clinopyroxene
I5-10 -pyx-197	54.2	0.18	0.27	0.02	14.51	20.05	0.22	9.19	0	1.56	0	100.19	Clinopyroxene
I5-10 -pyx-198	54.5	0.17	0.32	0.02	14.45	20.32	0.18	8.71	0	1.58	0	100.24	Clinopyroxene
I5-10 -pyx-199	54.04	0.45	2.34	0.09	15.75	18.88	0.13	7.09	0.03	1.38	0	100.18	Clinopyroxene
I5-10 -pyx-200	50.07	1.19	4.62	0.44	14.32	21.92	0.09	6.68	0.01	0.47	0	99.8	Clinopyroxene
I5-10 -pyx-201	54.43	0.17	0.27	0	15.06	21.06	0.15	7.75	0	1.3	0.01	100.2	Clinopyroxene
I5-10 -pyx-202	54.54	0.08	0.1	0	15.07	21.54	0.15	7.59	0	1.29	0	100.36	Clinopyroxene
I5-10 -pyx-203	53.98	0.14	0.4	0	14.72	20.53	0.12	8.44	0	1.24	0	99.57	Clinopyroxene
I5-10 -pyx-204	54.19	0.23	0.65	0.01	15.25	20.14	0.14	7.71	0.03	1.27	0	99.62	Clinopyroxene
I5-10 -pyx-205	54.1	0.12	0.19	0	15	20.99	0.14	7.59	0	1.25	0.01	99.39	Clinopyroxene
I5-10 -pyx-206	54.27	0.14	0.16	0	15.36	20.46	0.16	8.03	0	1.14	0	99.73	Clinopyroxene
I5-10 -pyx-207	53.89	0.14	0.37	0.01	14.71	20.73	0.15	7.86	0	1.34	0	99.19	Clinopyroxene
I5-10 -pyx-208	54.22	0.19	0.41	0.06	15.42	20.55	0.15	7.89	0.03	1.19	0	100.1	Clinopyroxene
I5-10 -pyx-209	52.58	0.71	5.06	0.03	15.18	18.49	0.08	6.41	0.01	1.61	0	100.16	Clinopyroxene
I5-10 -pyx-210	54.56	0.08	0.08	0	15.26	20.99	0.18	7.77	0	0.98	0	99.9	Clinopyroxene
I5-10 -pyx-211	54.22	0.19	0.88	0	15.39	20.59	0.15	7.26	0	1.15	0	99.84	Clinopyroxene
I5-10 -pyx-212	54	0.09	0.14	0.04	15.11	20.66	0.16	7.92	0	1.28	0	99.4	Clinopyroxene
I5-10 -pyx-213	54.4	0.22	1.06	0.06	15.61	20.31	0.1	7.11	0	1.27	0	100.15	Clinopyroxene
I5-10 -pyx-214	49.61	0.99	8.47	0.84	15.12	20.08	0.1	3.94	0.04	0.89	0.01	100.09	Clinopyroxene
I5-10 -pyx-215	53.96	0.19	0.39	0	14.11	19.85	0.15	9.53	0	1.75	0	99.94	Clinopyroxene
I5-10 -pyx-216	54.07	0.16	0.31	0	14.61	20.73	0.16	8.21	0.02	1.4	0	99.68	Clinopyroxene
I5-10 -pyx-217	54.11	0.13	0.08	0	15.03	21.6	0.17	7.23	0	1.22	0	99.57	Clinopyroxene
I5-10 -pyx-218	50.71	0.87	6.8	0.89	16.07	19.62	0.12	4.11	0	0.79	0	99.97	Clinopyroxene
I5-10 -pyx-220	54.56	0.12	0.16	0	15.1	21.47	0.14	7.13	0	1.19	0	99.86	Clinopyroxene
I5-10 -pyx-221	53.98	0.14	0.32	0.03	14.91	20.42	0.13	7.97	0.01	1.26	0	99.16	Clinopyroxene
I5-10 -pyx-222	54	0.42	2.11	0.12	15.76	19.58	0.08	6.4	0.04	1.3	0	99.81	Clinopyroxene
I5-10 -pyx-223	51.13	0.77	6.24	0.73	16.74	19.87	0.12	3.99	0.09	0.76	0.01	100.44	Clinopyroxene
I5-10 -pyx-224	51.08	1.33	5.14	0.05	15.09	20.15	0.1	5.79	0.01	1.02	0.01	99.77	Clinopyroxene
I5-10 -pyx-225	52.7	0.56	4.15	0.19	16.48	19.61	0.14	4.75	0.03	1.12	0	99.73	Clinopyroxene
I5-10 -pyx-226	54.32	0.11	0.31	0	15.2	20.51	0.15	8.01	0	1.08	0	99.7	Clinopyroxene
I5-10 -pyx-227	53.92	0.15	0.28	0.01	14.64	19.92	0.13	9.21	0	1.4	0.01	99.65	Clinopyroxene
I5-10 -pyx-228	54.06	0.11	0.04	0.04	14.88	20.61	0.19	8.16	0	1.29	0	99.39	Clinopyroxene
I5-10 -pyx-229	53.9	0.52	2.92	0.1	14.78	19.31	0.08	6.52	0	1.79	0	99.93	Clinopyroxene
I5-10 -pyx-230	54.32	0.11	0.04	0.03	15.49	20.14	0.17	8.58	0	1.08	0	99.95	Clinopyroxene
I5-10 -pyx-231	54.28	0.17	0.45	0.01	15.3	20.02	0.14	8.19	0.01	1.25	0	99.84	Clinopyroxene
I5-10 -pyx-232	54.18	0.1	0.35	0	14.98	20.31	0.13	8.61	0	1.27	0	99.92	Clinopyroxene
I5-10 -pyx-233	54.07	0.13	0.32	0.01	14.89	20.74	0.19	7.93	0	1.29	0.01	99.59	Clinopyroxene
I5-10 -pyx-234	54.24	0.39	1.74	0.05	15.77	19.99	0.15	6.46	0	1.28	0	100.05	Clinopyroxene
I5-10 -pyx-235	54.03	0.21	0.86	0	14.53	19.69	0.15	8.86	0	1.54	0	99.86	Clinopyroxene
I5-10 -pyx-236	54.24	0.07	0.09	0	15.69	20.24	0.19	8.2	0.02	0.98	0	99.71	Clinopyroxene
I5-10 -pyx-237	54.66	0.18	0.69	0	15.1	20.82	0.11	7.78	0.01	1.33	0	100.68	Clinopyroxene
I5-10 -pyx-238	54.23	0.09	0.07	0	15.45	20.83	0.21	8.36	0.01	0.9	0.01	100.17	Clinopyroxene
I5-10 -pyx-239	52.14	0.69	5.6	0.19	15.62	17.46	0.13	5.77	0.12	1.65	0	99.37	Clinopyroxene
I5-10 -pyx-240	54.22	0.11	0.46	0	14.94	21.09	0.12	7.78	0	1.19	0	99.91	Clinopyroxene
I5-10 -pyx-241	53.88	0.16	0.85	0.08	15.07	19.98	0.21	8.32	0	1.38	0	99.94	Clinopyroxene
I5-10 -pyx-242	54.2	0.15	0.15	0.04	14.78	20.96	0.17	7.59	0	1.34	0	99.37	Clinopyroxene
I5-10 -pyx-243	54.21	0.17	0.5	0.01	14.73	20.35	0.13	8.14	0.01	1.38	0	99.62	Clinopyroxene
I5-10 -pyx-244	54.25	0.16	0.43	0.02	15.04	20.99	0.12	7.73	0	1.28	0	100.01	Clinopyroxene
I5-10 -pyx-245	54.4	0.11	0.37	0	15.01	20.53	0.15	8.23	0.03	1.16	0	99.99	Clinopyroxene
I5-10 -pyx-246	54.32	0.15	0.28	0.01	14.87	20.39	0.11	8.7	0	1.3	0.01	100.13	Clinopyroxene

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
I5-10 -oxi-10	0.13	7.84	0.06	0.65	0.03	0.78	2.34	0.01	0.26	82.51	0.01	0.07	94.7	51.78	35.92	99.88
I5-10 -oxi-38	0.11	8.34	0.06	0.66	0.06	1.05	2.18	0	0.16	82.52	0.05	0.09	95.3	50.31	37.26	100.35
I5-10 -oxi-52	0.04	4.94	0.07	2.76	0.03	0.4	1.8	0.02	0.88	83.96	0.02	0.05	94.96	56.29	33.3	100.6
I5-10 -oxi-67	0.13	6.25	0	0.44	0.03	0.42	1.97	0.01	0.15	85.34	0.03	0.04	94.8	56.32	34.66	100.44
I5-10 -oxi-68	0.09	8.46	0	1	0.26	1.09	2.65	0	0.25	81.23	0.01	0.06	95.09	49.65	36.55	100.07
I5-10 -oxi-106	0.14	6.66	0.04	0.27	0.05	0.66	1.47	0	0.13	85.71	0.04	0.06	95.23	54.92	36.29	100.73
I5-10 -oxi-108	0.09	7.31	0.02	0.76	0.02	0.79	2.07	0	0.13	83.78	0	0.01	94.98	52.94	36.14	100.28
I5-10 -oxi-109	0.16	8.06	0.01	0.68	0.03	0.84	1.89	0	0.21	82.44	0.03	0.06	94.43	50.68	36.84	99.51
I5-10 -oxi-110	0.13	8.12	0	0.47	0.08	0.81	1.79	0	0.15	82.68	0.07	0.05	94.33	50.83	36.94	99.43
I5-10 -oxi-111	0.04	5.92	0.03	0.56	0.55	0.51	1.84	0	0.34	85.46	0.08	0.03	95.35	56.54	34.59	101.01
I5-10 -oxi-113	0.12	8.41	0.05	0.59	0.09	1	2.21	0	0.22	81.93	0.04	0.07	94.72	49.98	36.95	99.73
I5-10 -oxi-116	0.15	7.89	0	0.57	0	0.93	2.22	0	0.17	82.94	0.02	0.07	94.96	51.59	36.51	100.13
I5-10 -oxi-117	0.08	7.31	0	0.45	0.02	0.82	2.25	0.01	0.12	84	0	0.06	95.1	53.55	35.81	100.47
I5-10 -oxi-118	0.13	7.49	0.02	0.57	0.06	0.81	2.1	0	0.15	84.45	0.01	0.04	95.85	53.26	36.53	101.19
I5-10 -oxi-119	0.12	6.49	0	0.46	0.04	0.59	2.07	0.01	0.23	85.3	0.03	0.06	95.41	55.85	35.05	101
I5-10 -oxi-120	0.15	7.53	0.02	0.64	0.05	0.75	1.84	0	0.08	84.29	0	0.04	95.41	52.75	36.83	100.69
I5-10 -oxi-122	0.13	6.37	0.03	0.4	0	0.64	2.03	0	0.19	85.26	0	0.06	95.1	55.77	35.08	100.69
I5-10 -oxi-123	0.11	7.58	0.02	0.52	0.02	0.78	2.02	0.02	0.21	84.14	0	0.03	95.46	52.99	36.46	100.77
I5-10 -oxi-124	0.15	6.34	0.02	0.44	0.01	0.58	1.92	0	0.16	84.42	0	0.03	94.09	55.05	34.89	99.6
I5-10 -oxi-125	0.09	7.53	0	0.52	0.07	0.77	2.16	0	0.15	83.77	0.05	0.05	95.16	53.03	36.05	100.48
I5-10 -oxi-126	0.11	7.23	0.04	0.59	0.03	0.72	2.1	0	0.14	83.75	0.01	0.04	94.75	53.29	35.8	100.09
I5-10 -oxi-127	0.08	3.35	0.06	0.31	0.06	0.17	1	0.01	0.3	88.91	0.01	0.12	94.37	62.29	32.87	100.61
I5-10 -oxi-132	0.13	7.15	0	0.52	0.06	0.7	2.23	0	0.11	83.88	0.04	0.06	94.87	53.75	35.51	100.26
I5-10 -oxi-135	0.09	8.24	0.02	1.02	0.06	0.89	2.51	0	0.19	81.68	0.03	0.06	94.79	50.47	36.27	99.85
I5-10 -oxi-136	0.16	8.22	0.05	0.86	0.03	1.14	2.22	0	0.21	81.55	0.05	0.03	94.52	49.46	37.04	99.48
I5-10 -oxi-137	0.06	6.75	0	0.49	0.03	0.51	1.84	0.01	0.18	85.2	0.01	0.07	95.14	55.31	35.42	100.68
I5-10 -oxi-138	0.09	7.07	0	0.42	0	0.79	2.08	0.01	0.13	84.51	0.04	0.04	95.19	54.11	35.83	100.62
I5-10 -oxi-140	0.15	8.64	0	0.73	0.11	1.03	2.29	0.01	0.12	81.52	0.02	0.02	94.63	49.23	37.22	99.56
I5-10 -oxi-144	0.11	6.8	0	0.5	0.07	0.68	1.94	0.01	0.19	85.14	0.05	0.05	95.55	54.93	35.71	101.05
I5-10 -oxi-145	0.12	8.8	0.03	0.68	0.26	1.08	2.54	0	0.17	82.03	0	0.06	95.77	49.65	37.35	100.75
I5-10 -oxi-146	0.13	8.43	0	0.83	0.23	1.07	2.51	0	0.14	82.53	0.06	0.05	95.99	50.46	37.13	101.04
I5-10 -oxi-147	0.12	8.27	0.01	0.64	0.01	0.97	2.37	0	0.15	82.02	0	0.07	94.64	50.47	36.6	99.7
I5-10 -oxi-148	0.14	6.72	0	0.44	0.03	0.63	1.9	0	0.2	84.73	0.06	0.03	94.88	54.76	35.45	100.37
I5-10 -oxi-150	0.11	6.82	0.01	0.42	0	0.59	2	0	0.19	84.05	0.02	0.05	94.26	54.36	35.14	99.71
I5-10 -oxi-151	0.1	7.29	0.01	0.5	0.03	0.82	1.95	0	0.15	84.83	0.06	0.06	95.81	53.75	36.46	101.19
I5-10 -oxi-152	0.1	8.3	0.01	0.71	0.15	0.83	2.2	0	0.14	82.03	0.06	0.05	94.59	50.48	36.61	99.65
I5-10 -oxi-154	0.1	6.79	0	0.46	0	0.75	1.96	0	0.25	84.94	0.01	0.06	95.32	54.73	35.69	100.81
I5-10 -oxi-155	0.13	6.44	0	0.51	0.03	0.6	2.06	0	0.16	85.15	0.01	0.09	95.17	55.69	35.04	100.75
I5-10 -oxi-156	0.1	6.26	0.01	0.49	0	0.33	2.02	0	0.2	85.74	0	0.06	95.23	56.9	34.54	100.93
I5-10 -oxi-157	0.1	6.4	0	0.42	0.02	0.62	2.52	0.01	0.19	85.2	0	0.02	95.48	56.41	34.44	101.13
I5-10 -oxi-158	0.12	8.64	0.01	0.67	0.16	1.03	2.2	0	0.23	81.52	0.03	0.07	94.69	49.28	37.18	99.62
I5-10 -oxi-159	0.09	7.24	0	0.45	0.01	0.7	2.14	0	0.13	83.84	0.03	0.04	94.67	53.6	35.61	100.04
I5-10 -oxi-160	0.11	6.95	0	0.46	0	0.84	2.02	0	0.18	84.1	0.05	0.06	94.76	53.78	35.71	100.15
I5-10 -oxi-163	0.11	8.24	0.05	0.92	0.1	0.84	2.21	0	0.08	82.14	0.01	0.04	94.74	50.41	36.78	99.79
I5-10 -oxi-164	0.12	7.81	0	0.54	0	0.89	2.03	0.02	0.2	82.76	0.03	0.08	94.48	51.52	36.4	99.64
I5-10 -oxi-165	0.11	8.51	0.07	1.03	0.06	1	2.54	0	0.16	81.42	0.03	0.01	94.95	49.57	36.81	99.92
I5-10 -oxi-166	0.12	8.34	0	0.75	0.03	1	2.38	0	0.19	82.62	0.02	0.07	95.51	50.76	36.94	100.6
I5-10 -oxi-167	0.08	7.5	0.01	0.64	0	0.91	2.03	0	0.15	83.18	0.02	0.05	94.57	52.13	36.27	99.8
I5-10 -oxi-170	0.1	7.87	0.07	0.73	0.01	0.92	2.17	0	0.13	83.48	0.05	0.03	95.57	51.85	36.83	100.77
I5-10 -oxi-171	0.09	7.15	0	0.42	0.07	0.67	2.09	0	0.16	84.29	0.01	0.04	94.98	54.08	35.63	100.4
I5-10 -oxi-172	0.12	8.49	0.1	0.69	0.04	0.95	2.16	0	0.17	82.7	0.05	0.08	95.56	50.34	37.4	100.6
I5-10 -oxi-175	0.12	6.32	0.05	0.54	0.02	0.51	2	0	0.17	85.34	0.04	0.04	95.15	56.03	34.93	100.76
I5-10 -oxi-177	0.17	7.17	0.01	0.44	0.01	0.73	1.94	0	0.16	83.87	0.03	0.08	94.62	53.29	35.92	99.96
I5-10 -oxi-179	0.1	7.4	0	0.49	0.06	0.82	2.1	0	0.21	83.9	0.07	0.06	95.21	53.18	36.04	100.54
I5-10 -oxi-180	0.1	7.86	0	0.71	0.02	0.8	2.23	0	0.19	83.44	0.02	0.01	95.38	52.26	36.42	100.62
I5-10 -oxi-182	0.12	8.68	0	0.82	0.03	1.02	2.25	0	0.24	81.72	0.03	0.03	94.93	49.43	37.25	99.88

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO*	NiO	Na2O	K2O	Total	I.D.
I5-10 -gar-and-263	37.05	0.02	21.27	0.08	5.59	1.04	3.54	31.46	0	0.01	0.01	100.07	Almandine
I5-10 -gar-and-264	38.01	0.04	21.29	0	4.9	9.8	0.59	25.29	0	0	0	99.93	Almandine
I5-10 -gar-and-265	37.94	0.01	21.58	0.01	7.14	1.4	1.19	30.97	0	0.02	0	100.26	Almandine
I5-10 -gar-and-266	37.31	0.08	20.79	0.06	3.38	6.68	0.73	31.02	0	0.02	0	100.08	Almandine
I5-10 -gar-and-267	39.22	0.04	22.1	0.01	8.99	7.34	0.54	22.08	0.03	0.01	0	100.37	Almandine
I5-10 -gar-and-268	37.33	0.02	21.16	0	4.91	3.62	1.35	31.72	0.04	0.02	0	100.17	Almandine
I5-10 -gar-and-269	37.68	0.03	21.21	0	4.9	5.44	0.91	30.23	0	0.02	0	100.41	Almandine
I5-10 -gar-and-270	38.32	0.15	21.38	0	5.28	10.37	0.3	24.69	0	0.01	0	100.49	Almandine
I5-10 -gar-and-271	38.36	0.07	21.38	0	5.14	11.28	1.11	22.63	0	0.01	0.01	99.99	Almandine
I5-10 -gar-and-272	37.79	0.1	20.83	0.04	2.78	12.16	0.97	25.68	0.05	0	0.01	100.42	Almandine
I5-10 -gar-and-273	37.59	0	21.41	0.04	5.46	4.06	1.05	30.81	0.04	0.01	0	100.46	Almandine
I5-10 -gar-and-274	39.12	0.05	21.91	0.08	9.9	7.3	0.53	20.86	0	0.02	0	99.79	Almandine
I5-10 -gar-and-275	37.76	0.15	21.03	0	2.18	14.05	1.23	23.67	0.01	0.02	0	100.11	Almandine
I5-10 -gar-and-276	37.65	0.07	20.32	0	4.16	8.59	3.55	25.45	0	0.02	0	99.81	Almandine
I5-10 -gar-and-278	36.71	0.02	20.84	0.03	3.68	1.56	1.26	35.93	0.03	0.01	0	100.06	Almandine
I5-10 -gar-and-279	38	0.1	21.31	0	3.55	11.17	1.18	25.05	0	0.02	0	100.37	Almandine
I5-10 -gar-and-281	39.36	0.04	21.99	0.1	10.32	3.45	0.45	24.7	0	0	0	100.41	Almandine

India-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
India-1-1	dk purple	41.168	0.1174	18.1108	7.4965	18.802	6.039	0.4576	7.757	0	0.0347	0	99.983
India-1-2	dk purple	40.958	0.1002	18.476	6.7117	19.006	5.658	0.3842	7.938	0.037	0.032	0.022	99.322
India-1-4	dk purple	41.43	0.0205	19.8683	5.3715	19.471	4.847	0.5603	8.025	0	0.0441	0	99.638
India-1-5	dk purple	41.659	0.5047	20.5193	3.4573	19.969	3.777	0.4621	9.779	0.012	0.0976	0.001	100.24
India-1-6	dk purple	41.91	0.0108	22.0926	2.5299	19.816	5.23	0.4652	7.971	0.009	0.0135	0.011	100.06
India-1-7	dk purple	41.56	0.0691	19.1396	6.331	19.955	5.12	0.42	7.601	0	0.0229	0	100.22
India-1-8	dk purple	41.578	0.0469	21.4597	3.3281	18.941	5.563	0.484	8.728	0.018	0.012	0	100.16
India-1-9	dk purple	41.655	0.0899	20.1203	5.0469	20.285	4.893	0.3839	7.565	0	0.0417	0.013	100.09
India-1-10	dk purple	41.777	0.1082	19.9936	5.0104	20.277	4.824	0.425	7.595	0	0.0556	0.029	100.09
India-1-11	dk purple	41.493	0.1626	20.4525	4.4937	20.161	4.812	0.3995	7.617	0.046	0.0349	0.038	99.709
India-1-12	dk purple	41.485	0	20.2877	4.9379	19.42	5.787	0.4884	7.363	0	0.0093	0.019	99.798
India-1-13	dk purple	41.298	0.0066	20.9238	4.1215	18.478	6.129	0.6477	8.667	0	0.0013	0.023	100.3
India-1-14	dk purple	41.922	0.165	21.1888	3.9634	21.139	3.993	0.3885	7.661	0	0.0621	0	100.48
India-1-15	dk purple	41.336	0.1307	19.1371	6.3537	20.152	4.742	0.4381	7.633	0.03	0.0421	0	99.995
India-1-16	purple	41.58	0	21.3648	3.5763	19.198	5.986	0.4946	7.818	0.006	0	0	100.02
India-1-17	purple	41.68	0.045	21.1581	3.6183	20.146	4.769	0.5463	7.866	0.013	0.0175	0	99.859
India-1-18	purple	41.386	0.0103	20.3275	5.0229	18.377	6.774	0.4908	8.08	0.012	0.0048	0.007	100.49
India-1-19	purple	41.506	0.0089	20.8833	3.9077	18.296	6.161	0.5654	8.33	0.066	0.0021	0.003	99.73
India-1-20	purple	41.737	0.0202	21.3298	3.567	18.666	5.878	0.58	8.686	0	0.0052	0.033	100.5
India-1-21	purple	41.649	0.0659	19.4194	6.2571	20.012	4.93	0.4175	7.491	0.044	0.0385	0.008	100.33
India-1-22	purple	41.945	0.0009	21.0928	4.2548	20.662	4.615	0.4342	7.31	0	0.0113	0	100.33
India-1-23	purple	41.486	0	21.5067	3.3588	18.747	6.077	0.6109	8.574	0.021	0	0	100.38
India-1-24	purple	41.757	0.0188	20.9065	3.9642	19.803	5.058	0.5253	7.936	0	0.0256	0.016	100.01
India-1-25	purple	41.741	0.0551	20.5499	4.536	19.643	5.639	0.4395	7.632	0.007	0.0066	0.033	100.28
India-1-26	purple	41.866	0	21.5915	3.3231	20.119	4.673	0.5904	7.909	0	0.0183	0	100.09
India-1-27	purple	42.605	0.032	22.9629	2.0704	23.686	1.258	0.4182	7.126	0.019	0.0136	0.025	100.22
India-1-28	purple	41.937	0	22.3344	2.0439	19.677	4.979	0.6433	8.213	0	0.0119	0	99.84
India-1-29	purple	41.326	0.0287	21.5889	2.8473	18.389	5.991	0.6125	8.981	0	0.0031	0	99.768
India-1-30	purple	41.79	0	21.15	3.6951	19.225	5.577	0.4461	8.466	0.01	0.0081	0	100.37
India-1-31	purple	41.648	0.0023	21.0192	4.1205	18.634	5.942	0.57	8.418	0	0.0008	0	100.35
India-1-32	purple	41.602	0.0113	21.4216	3.534	19.24	5.693	0.5295	8.163	0	0.0132	0.018	100.23
India-1-33	purple	41.713	0	20.6545	4.641	20.243	4.85	0.459	7.742	0.044	0.0109	0.01	100.37
India-1-34	purple	41.383	0.0314	21.5602	3.1696	18.352	6.017	0.5993	9.13	0.018	0	0	100.26
India-1-35	purple	41.465	0.0225	21.2157	3.4278	18.935	5.71	0.5563	8.207	0.016	0.0226	0	99.577
India-1-36	purple	41.771	0	21.5222	3.218	19.503	5.799	0.4426	7.974	0	0.0045	0	100.23
India-1-37	purple	42.21	0	22.1722	2.6743	21.967	3.163	0.3956	7.509	0.007	0.0107	0.002	100.11
India-1-38	purple	42.203	0.0038	22.2393	2.7738	21.295	3.738	0.4431	7.728	0.032	0.0014	0	100.46
India-1-39	purple	41.476	0.0146	21.314	3.6282	18.849	5.951	0.5889	8.628	0	0	0.045	100.49
India-1-40	purple	41.918	0.0122	21.9717	3.0336	20.676	4.044	0.4694	8.08	0.006	0.0082	0.04	100.26
India-1-41	purple	41.875	0.0358	22.2383	2.803	20.412	4.763	0.405	8.13	0	0	0.011	100.67
India-1-42	purple	42.168	0.0005	21.8142	3.3403	20.914	3.784	0.3726	7.454	0.029	0.0122	0	99.89
India-1-43	purple	41.727	0.0071	21.5705	3.3212	19.473	5.965	0.4118	7.865	0	0.0072	0	100.35
India-1-44	purple	41.381	0.0277	20.9001	3.9998	19.673	5.009	0.5859	8.066	0	0.017	0	99.659
India-1-45	purple	41.858	0	21.6626	3.2276	19.18	5.585	0.4964	8.426	0	0.0174	0	100.45
India-1-46	purple	41.493	0.0155	20.2897	4.8579	17.79	6.765	0.6118	8.385	0	0.0159	0.034	100.26
India-1-47	purple	42.19	0.0306	22.2945	2.8766	21.377	3.568	0.4135	7.651	0.035	0.0035	0.005	100.44
India-1-48	purple	41.483	0.0578	21.1426	3.7177	19.249	5.638	0.4623	8.332	0	0.0131	0.008	100.1
India-1-49	purple	41.676	0.0019	21.796	2.8977	19.313	5.521	0.6203	8.754	0.001	0.0091	0	100.59
India-1-50	purple	42.665	0	22.6488	2.2536	23.142	1.727	0.3997	7.269	0.009	0.0054	0	100.12
India-1-51	purple	41.861	0.082	22.4549	1.9517	20.038	4.823	0.5417	8.343	0.037	0.0207	0.002	100.16
India-1-52	purple	41.708	0.0287	20.8304	4.2832	18.777	6.33	0.5482	7.967	0	0.001	0.033	100.51
India-1-53	purple	41.864	0.0225	20.883	4.0112	20.251	4.722	0.548	7.787	0	0.0235	0	100.11
India-1-54	purple	41.811	0.0066	22.0646	2.538	19.677	5.486	0.3928	7.963	0.038	0.0115	0.012	100
India-1-55	purple	41.625	0.1728	19.5101	5.885	19.597	5.311	0.4166	7.789	0	0.0536	5E-04	100.36
India-1-56	purple	41.912	0.0698	22.8098	1.7184	19.679	5.03	0.5665	8.295	0	0.0246	0	100.11
India-1-57	purple	41.486	0.058	22.3741	2.1988	19.639	5.081	0.4573	8.682	0.018	0.0076	0	100
India-1-58	purple	41.6	0.0061	21.0902	3.9553	20.555	3.931	0.5258	8.246	0	0.0192	0.005	99.933
India-1-59	purple	42.096	0.084	22.3296	2.1835	19.668	5.295	0.4406	8.136	0.028	0	0	100.26
India-1-60	purple	41.676	0.0429	22.7265	1.7564	20.315	4.703	0.4579	8.223	0	0.0212	0	99.922

India-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
India-1-61	purple	42.095	0.0104	22.776	1.9233	19.904	4.895	0.6087	8.356	0	0.0055	0.009	100.58
India-1-62	purple	41.66	0.1106	21.4639	3.1293	19.609	5.122	0.4613	8.279	0	0.0367	0	99.871
India-1-63	purple	42.081	0.0231	22.4037	2.4177	19.767	5.333	0.4618	8.058	0.012	0.0115	0	100.57
India-1-64	purple	41.623	0.0221	20.8648	4.2099	19.802	4.993	0.5129	8.233	0	0.0211	0	100.28
India-1-65	purple	41.607	0.1232	21.5166	2.9943	18.843	5.796	0.5399	8.898	0	0.0137	0	100.33
India-1-66	purple	41.756	0.0531	21.2079	3.7246	20.294	4.425	0.5148	7.986	0	0.0288	0.023	100.01
India-1-67	purple	41.978	0.0623	22.6823	1.9555	20.114	4.73	0.5736	8.002	0.016	0.0202	0	100.13
India-1-68	purple	41.81	0.0357	21.3884	3.5085	20.39	4.525	0.5221	7.75	0.06	0.0212	0.017	100.03
India-1-69	purple	41.828	0.0221	20.8202	4.1642	19.611	5.268	0.5554	7.906	0	0.0126	0	100.19
India-1-70	purple	41.72	0.0594	23.0105	1.3313	19.31	4.741	0.4614	9.579	0	0.0243	0.016	100.25
India-1-71	purple	42.012	0	21.4573	3.42	20.323	4.629	0.4841	7.864	0	0.0244	0	100.21
India-1-72	purple	42.114	0.1224	22.8906	1.71	20.461	5.085	0.3422	7.912	0.015	0.022	0	100.67
India-1-73	purple	42.186	0.0719	23.1346	0.822	20.252	4.99	0.334	8.285	0	0.0118	0	100.09
India-1-74	purple	41.642	0	21.4483	3.2511	18.997	5.929	0.5234	8.065	0.044	0.0114	0.002	99.913
India-1-75	purple	41.586	0.0943	21.5181	3.1171	19.045	5.453	0.5031	8.804	0.024	0.0331	0	100.18
India-1-76	red	41.8	0.6248	20.0327	3.9139	20.529	4.214	0.348	8.567	0.047	0.0572	0	100.13
India-1-77	red	41.59	0.5715	20.9927	2.4971	19.522	4.417	0.5099	10.08	0.021	0.1082	0	100.31
India-1-78	red	41.775	0.458	20.9332	2.9012	20.126	3.72	0.4101	9.425	0	0.0784	0.028	99.854
India-1-79	red	41.167	0.8833	19.9852	3.2211	18.864	5.565	0.4775	9.535	0.03	0.1206	0.024	99.871
India-1-80	red	40.56	0.0824	20.9532	2.7815	14.994	6.022	0.7461	13.85	0	0.0191	0	100.01
India-1-81	red	41.776	0.7554	21.0358	2.1589	19.547	4.646	0.4865	9.662	0.019	0.1255	0.022	100.23
India-1-82	red	38.516	0.0848	21.2861	0.018	5.3587	10.25	0.4599	23.95	0	0.0301	0.005	99.962
India-1-83	red	41.505	0.6484	20.14	3.4424	20.539	4.18	0.4707	8.78	0	0.0958	0	99.8
India-1-84	red	41.529	0.627	20.2792	3.693	19.994	4.281	0.4168	9.306	0	0.0875	0	100.21
India-1-85	red	41.315	1.3368	19.698	2.3834	19.498	5.642	0.4117	9.438	0.009	0.1169	0	99.849
India-1-86	red	41.446	0.8934	20.3533	3.0615	19.01	5.344	0.4479	9.912	0.032	0.1056	0	100.61
India-1-87	red	41.48	0.8221	20.4601	2.8642	19.19	5.022	0.476	9.651	0	0.1336	0	100.1
India-1-88	red	41.284	0.355	18.8872	6.051	19.541	4.914	0.5103	8.571	0.037	0.0711	0	100.22
India-1-89	red	41.264	0.9876	20.0262	3.1673	18.728	5.463	0.491	9.979	0.025	0.1393	0	100.27
India-1-90	red	41.452	0.819	20.6031	2.2951	19.214	4.898	0.4767	9.568	0.004	0.1205	0	99.45
India-1-91	red	41.573	0.8663	20.4897	2.6641	19.358	5.147	0.4663	9.667	0.016	0.122	0.002	100.37
India-1-92	red	41.481	0.4944	20.4824	3.5906	19.433	4.548	0.4519	9.385	0	0.081	0.033	99.98
India-1-93	red	41.546	0.81	20.9017	2.2422	19.409	4.915	0.4187	9.527	0	0.1282	0	99.898
India-1-94	red	41.337	0.8652	20.4157	2.8841	19.108	5.36	0.4947	9.717	0.06	0.1177	1E-04	100.36
India-1-95	red	41.495	0.8467	20.5412	2.8453	19.152	5.106	0.4817	9.774	0.016	0.1473	0.017	100.42
India-1-96	red	41.7	0.801	20.744	2.3149	19.111	5.252	0.4319	9.56	0.012	0.1309	0	100.06
India-1-97	purple	42.25	0.0568	23.7033	0.4291	20.532	4.268	0.3878	8.627	0.027	0.0245	0.014	100.32
India-1-98	purple	42.358	0.0859	22.644	1.853	20.224	4.614	0.5299	8.383	0.028	0.0237	0.012	100.76
India-1-99	purple	41.657	0.1107	21.847	2.8436	19.615	4.918	0.4477	8.41	0	0.0293	0.017	99.896
India-1-100	red	41.653	0.4619	21.174	3.1326	20.049	4.008	0.4605	9.082	0.025	0.0739	0.023	100.14
India-1-101	red	41.558	0.701	20.7589	2.679	19.361	4.619	0.4633	9.783	0.006	0.1267	0	100.06
India-1-102	red	38.757	0.073	21.4428	0.0555	6.966	7.663	0.4997	24.54	0	0.0354	0	100.03
India-1-103	red	42.256	0.2667	21.4433	3.1073	20.787	4.337	0.3958	7.912	0	0.051	0.038	100.59
India-1-104	red	41.746	0.5799	21.6036	2.1795	19.755	4.38	0.4136	9.036	0.012	0.0826	0.002	99.788
India-1-105	red	41.515	0.8069	20.6865	2.4883	19.101	5.163	0.4599	9.696	0	0.1167	0	100.03
India-1-106	red	41.683	0.7283	21.0827	2.2957	19.607	4.726	0.3994	9.575	0.024	0.1274	0	100.25
India-1-107	red	41.666	0.4564	20.8019	3.0012	20.022	4.267	0.4248	9.037	0.037	0.0697	0	99.783
India-1-108	red	41.556	0.4657	21.0977	2.7716	20.018	3.756	0.3722	9.496	0.058	0.0856	0	99.677
India-1-109	red	42.065	0.2887	22.3545	1.5757	20.897	4.148	0.3652	8.28	0.024	0.0685	0	100.07
India-1-110	red	41.687	0.4563	21.2052	2.7478	19.479	4.523	0.4143	9.924	0.03	0.0775	0	100.54
India-1-111	red	38.561	0.1156	21.486	0.0865	7.5321	6.051	0.9229	25.79	0.006	0	0	100.55
India-1-112	red	38.992	0.1075	21.5746	0.0375	6.6351	10.81	0.5213	21.7	0.019	0.0234	0	100.42
India-1-113	red	41.525	0.6821	20.9438	2.5282	19.35	4.519	0.4975	9.955	0.01	0.1054	0	100.12
India-1-114	red	41.526	0.5326	21.1109	2.551	19.474	4.875	0.405	9.368	0	0.0829	0	99.926
India-1-115	red	41.686	0.6468	21.1582	2.4173	19.794	4.545	0.4614	9.484	0.015	0.0916	0.005	100.3
India-1-116	red	41.495	0.5916	20.3432	3.3425	19.758	4.041	0.4241	9.916	0.009	0.1124	0.024	100.06
India-1-117	red	39.753	0.0328	22.2756	0.4906	12.061	5.226	0.5127	20.02	0	0.0146	0.017	100.4
India-1-118	red	41.473	0.5687	21.0151	2.428	19.814	3.899	0.5022	9.831	0	0.1149	0.019	99.665
India-1-119	red	41.398	1.0418	20.0771	2.8857	18.71	5.718	0.5228	9.869	0.072	0.1418	0	100.44

India-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
India-1-120	red	41.62	0.7243	21.17	2.1049	19.47	4.763	0.4234	9.577	0.037	0.1176	0.002	100.01
India-1-121	red	42.157	0.2216	22.3793	1.8085	21.069	4.038	0.4132	8.032	0	0.0493	0.021	100.19
India-1-122	red	41.239	1.0727	19.9125	3.0958	18.707	5.539	0.4664	9.897	0	0.1378	0.017	100.08
India-1-123	red	41.703	0.5316	21.0769	2.6438	19.608	4.904	0.4206	9.327	0.016	0.0825	0	100.31
India-1-124	red	41.522	0.8087	20.9506	2.3825	19.433	4.898	0.4446	9.503	0.012	0.1242	0	100.08
India-1-125	orange	39.836	1.1609	22.7675	0	11.543	9.498	0.2544	15.32	0	0.0072	0	100.39
India-1-126	orange	39.706	0.0194	22.1939	0.1799	11.216	5.112	0.4856	21.5	0	0.0068	0	100.41
India-1-127	orange	39.385	0.1667	22.101	0.1092	8.9075	8.271	0.4746	21.32	0	0.0478	0.031	100.81
India-1-129	orange	37.645	0.0704	21.2317	0	3.5696	7.335	0.6527	29.8	0	0.0197	0	100.32
India-1-131	orange	39.513	0.0194	22.6694	0.1364	11.417	5.13	0.5485	20.93	0	0.0052	0.04	100.41
India-1-132	orange	38.866	0.0614	22.0732	0.0386	7.1067	10.8	0.4339	20.17	0.003	0.0124	0.003	99.57
India-1-133	orange	40.066	0.1015	22.4621	0.0594	9.7079	9.978	0.308	17.83	0	0.0382	0.004	100.55
India-1-134	orange	39.45	0.0522	22.397	0.1445	8.3567	10.34	0.3996	19.1	0.016	0.003	0.039	100.3
India-1-135	orange	38.981	0.0389	21.8915	0.0325	6.774	10.45	0.5286	21.61	0	0.0127	0	100.31
India-1-136	orange	40.665	0.1043	22.969	0.0541	13.5	6.981	0.4137	16.18	0	0.0181	0.02	100.91
India-1-137	orange	39.893	0.0528	21.918	0.4915	12.112	5.203	0.5371	19.64	0.007	0.0117	0	99.869
India-1-138	orange	41.554	0.8674	20.8849	2.5347	19.42	5.009	0.4531	9.591	0.027	0.1369	0	100.48
India-1-139	orange	41.539	0.7598	20.9022	2.4157	19.306	4.851	0.4096	9.636	0	0.1205	1E-04	99.94
India-1-140	orange	39.245	0.075	22.0239	0.0752	9.2045	6.027	0.7543	22.94	0	0.0171	0.038	100.4
India-1-141	orange	39.069	0.0625	21.899	0.0318	9.5905	5.57	0.6039	23.41	0	0.0275	0	100.27
India-1-142	red	41.358	0.6549	19.8206	3.8563	20.617	4.032	0.4052	8.384	0	0.0993	0.029	99.256
India-1-143	red	41.481	0.5383	21.128	2.5534	19.696	4.126	0.4517	9.966	0.022	0.0939	0.024	100.08
India-1-144	red	42.066	0.0085	21.1717	0.0295	19.511	4.431	0.0368	10.21	0	0.011	0	97.478
India-1-145	red	41.745	0.5145	21.481	2.2236	19.828	4.311	0.4848	9.339	0	0.0881	0.021	100.04
India-1-146	red	41.409	0.7515	20.4384	2.8036	19.282	4.859	0.4275	9.574	0.016	0.1285	0.012	99.701
India-1-147	red	41.646	0.4573	20.9002	2.9293	19.949	4.114	0.4366	9.214	0	0.0896	0	99.735
India-1-148	red	41.264	0.6187	21.2243	2.3399	19.78	4.489	0.4023	9.438	0	0.092	0	99.648
India-1-149	red	41.865	0.4106	21.5323	2.4079	19.93	3.931	0.4123	9.366	0	0.0714	8E-04	99.928
India-1-150	orange	39.049	0.04	22.0951	0.09	7.6545	9.936	0.4658	21.03	0.031	0.0179	0	100.41
India-1-151	orange	39.882	0.1473	22.3846	0.018	9.8483	9.946	0.3317	18.1	0	0.0311	0	100.68
India-1-153	orange	40.258	0.0075	22.755	0.0334	12.373	7.367	0.3546	17.31	0.046	0.0183	0	100.53
India-1-154	orange	40.084	0.0503	22.4357	0.0412	10.366	11.08	0.3356	15.85	0.06	0.0188	0	100.32
India-1-156	orange	38.882	0.0402	21.8844	0.0035	6.7058	8.915	0.4804	23.54	0.013	0.0145	0.023	100.5
India-1-157	orange	37.489	0.0553	21.3221	0.0158	3.5327	6.563	0.7292	30.92	0	0.035	0.004	100.66
India-1-158	orange	41.23	0.0826	23.1731	0.2379	17.121	4.377	0.4454	13.25	0.018	0.0189	0	99.95
India-1-159	purple	41.229	0.0351	22.044	1.7682	17.434	5.461	0.4284	11.71	0	0.0004	0	100.11
India-1-160	purple	41.909	0.0456	22.6235	1.4624	19.297	4.435	0.3859	10.01	0.051	0.025	0	100.24
India-1-163	purple	41.876	0	20.9958	3.6999	20.082	4.858	0.5527	8.014	0.037	0.0101	0.002	100.13
India-1-164	purple	41.88	0.0434	22.5607	1.708	19.546	5.277	0.456	8.76	0	0.0181	0.012	100.26
India-1-165	purple	42.016	0.0042	21.6932	2.983	19.357	5.708	0.6346	8.259	0	0.0099	0	100.66
India-1-166	purple	42.175	0.0231	22.1489	2.6527	21.157	4.278	0.4238	7.419	0.05	0	0	100.33
India-1-167	purple	41.611	0.0113	20.9233	3.9736	19.064	6.134	0.4935	7.867	0	0.0095	0.029	100.12
India-1-168	purple	41.886	0.0978	21.2961	3.4168	19.415	5.541	0.4482	8.567	0	0.0104	0.007	100.68
India-1-169	purple	41.952	0	21.7797	2.9189	20.384	4.31	0.5289	8.37	0.063	0.0021	0	100.31
India-1-170	purple	41.682	0.0109	22.9487	0.871	18.945	5.916	0.4403	9.254	0.071	0	0.005	100.14
India-1-171	purple	42.264	0.0245	22.2488	1.9667	19.574	5.64	0.432	8.25	0.041	0.0158	0	100.46
India-1-172	purple	42.174	0.0141	21.2817	3.5119	20.356	4.66	0.4963	8.025	0.001	0	0	100.52
India-1-173	purple	41.877	0.0292	21.2855	3.192	19.825	5.352	0.4822	8.444	0	0.0103	0.002	100.5
India-1-174	purple	42.101	0.1249	22.4165	2.0125	20.51	4.644	0.4787	8.3	0	0.0214	0.01	100.62
India-1-175	purple	41.982	0.1346	22.1926	2.0919	19.8	4.834	0.512	8.853	0	0.0136	0.011	100.43
India-1-176	purple	42.062	0.0325	22.4387	1.9942	20.386	4.842	0.4701	8.185	0.024	0.0284	0	100.46
India-1-177	purple	42.276	0.0754	22.0958	2.6078	20.342	4.893	0.5277	8.082	0.053	0.0392	0	100.99
India-1-178	purple	41.197	0.4823	17.5517	7.3617	18.698	5.428	0.4902	9.491	0	0.0996	0	100.8
India-1-179	purple	41.998	0.023	21.1915	3.6892	20.701	4.499	0.5341	8.015	0	0.0173	0	100.67
India-1-180	purple	42.787	0.0193	22.4852	2.0488	22.809	2.119	0.4901	7.737	0	0.005	0	100.5
India-1-181	purple	41.91	0	20.7712	4.1527	19.606	5.413	0.511	8.221	0	0.0112	0	100.6
India-1-182	purple	41.73	0.0839	22.3779	2.158	19.823	5.448	0.4473	8.584	0	0.014	0.029	100.69
India-1-183	purple	42.136	0.0494	22.4304	1.7881	19.394	5.254	0.4725	9.312	0.009	0.0185	0.008	100.87
India-1-184	purple	41.992	0.0183	21.5848	3.1991	20.018	5.141	0.5102	8.109	0	0.0177	0	100.59

India-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
India-1-185	purple	42.316	0.0741	22.3161	1.9442	20.32	4.842	0.4717	7.977	0.007	0.0277	0.01	100.3
India-1-186	purple	42.066	0.0508	22.4865	1.8537	19.387	4.816	0.5043	9.697	0	0.0095	0.02	100.89
India-1-187	purple	42.085	0.0848	22.376	1.9053	20.127	4.916	0.5502	8.392	0.068	0.0178	0.009	100.53
India-1-188	purple	42.908	0.0399	22.1187	2.9996	23.612	1.301	0.4531	7.229	0.015	0	0	100.68
India-1-189	purple	42.283	0.0066	21.9569	2.8853	20.924	3.85	0.5024	7.703	0.004	0.0086	0	100.12
India-1-190	purple	41.791	0.0871	21.618	2.7905	19.437	5.496	0.4329	8.305	0	0.0097	0	99.967
India-1-191	purple	42.585	0	22.0501	2.952	23.824	1.208	0.4306	7.227	0.022	0.0088	0	100.31
India-1-192	purple	42.386	0.0405	22.4669	1.8791	20.162	4.685	0.4823	8.776	0	0.0262	0	100.9
India-1-193	purple	42.531	0.0136	22.3755	2.4828	23.672	1.345	0.4167	7.215	0.016	0.0058	0	100.07
India-1-194	purple	41.819	0.0042	21.1627	3.5133	18.762	5.92	0.5898	8.796	0	0	0	100.57
India-1-195	purple	41.946	0.0573	21.1264	3.8115	19.467	5.683	0.4453	8.115	0.003	0.0136	0.002	100.67
India-1-196	purple	41.695	0.008	22.4415	1.7418	18.711	5.551	0.7563	9.64	0.009	0.0079	0.015	100.58
India-1-197	purple	42.046	0.0104	21.3396	3.292	19.938	5.628	0.4722	7.877	0.013	0.0123	0	100.63
India-1-198	purple	42.129	0.0462	22.407	1.9891	19.465	5.499	0.4768	8.517	0.026	0.0203	0	100.58
India-1-199	purple	42.108	0.0207	21.9722	2.8886	20.647	4.224	0.5217	8.127	0	0.0155	0.01	100.53
India-1-201	red	38.111	0.0529	21.122	0.0391	3.6597	6.848	0.6611	30.78	0.001	0.0246	0	101.3
India-1-202	red	41.699	0.5571	21.1315	2.506	19.683	4.44	0.4785	9.61	0.015	0.1192	0.03	100.27
India-1-203	red	41.524	1.3075	20.2445	1.6165	20.638	4.901	0.3737	8.929	0	0.1059	0.003	99.643
India-1-204	red	41.919	0.9627	20.715	2.2833	19.352	5.15	0.456	9.667	0.037	0.1369	0	100.68
India-1-205	red	42.001	0.4947	21.8716	1.9242	20.423	4.008	0.4731	9.836	0.031	0.0913	0	101.15
India-1-206	red	41.527	0.6939	20.7351	2.598	19.568	4.805	0.4687	9.408	0	0.0995	0	99.903
India-1-207	red	41.386	0.9386	19.8124	3.4051	18.874	5.761	0.4582	9.803	0	0.1262	0	100.56
India-1-208	red	41.861	0.5512	21.6546	1.6195	20.055	4.106	0.451	9.514	0	0.0979	0	99.909
India-1-209	red	41.794	0.4481	20.9756	2.982	20.224	4.128	0.4573	9.314	0.031	0.0753	0.007	100.44
India-1-210	red	41.89	0.52	21.071	2.7801	20.21	4.096	0.4491	9.315	0	0.0765	0.007	100.41
India-1-211	red	41.588	0.728	20.8252	2.1631	19.653	4.816	0.4872	9.624	0.006	0.1181	0	100.01
India-1-212	red	41.478	0.8164	20.174	2.9077	19.362	4.979	0.5175	9.897	0	0.1295	0	100.26
India-1-213	red	41.907	0.6329	20.9872	2.4377	19.58	4.674	0.4405	9.688	0	0.1243	0	100.47
India-1-214	red	41.847	0.4631	20.2654	3.6523	20.109	4.198	0.4512	9.643	0.026	0.0999	0	100.75
India-1-215	red	42.017	0.4342	21.2004	2.8162	20.406	3.993	0.4758	9.206	0.012	0.0741	0	100.63
India-1-216	red	41.804	0.4618	20.8461	3.0799	20.102	4.219	0.4937	9.716	0	0.0901	0	100.81
India-1-217	red	39.539	0.0676	22.0997	0.0166	10.982	3.625	0.5516	24.3	0.004	0.0262	0	101.21
India-1-218	red	41.886	0.7535	20.9536	2.0947	19.529	4.976	0.4859	9.337	0.054	0.1218	0	100.19
India-1-219	red	41.324	0.626	20.4516	2.831	18.943	5.192	0.4514	10.01	0.002	0.099	0.004	99.937
India-1-220	red	41.71	0.4861	20.4706	3.36	19.94	3.966	0.4862	10.14	0.019	0.0751	0	100.65
India-1-221	red	41.402	0.7959	20.1311	3.0401	19.183	5.378	0.4473	9.572	0.019	0.1186	0.013	100.1
India-1-222	red	38.486	0.0406	21.0107	0.0456	6.1999	7.839	0.58	26.63	0	0.0216	0.032	100.89
India-1-223	red	41.577	0.646	20.6626	2.8412	19.127	5.185	0.3924	9.902	0.028	0.0916	0	100.45
India-1-224	red	42.031	0.3657	21.4916	2.46	20.462	3.945	0.355	9.224	0	0.0852	0	100.42

India-1 Chromite

Sample	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
India-1-1	0.0255	0.0811	0.0192	0.0426	9.7653	57.4325	0.2448	10.178	0.031	0.5141	21.374	0.044	0.162	99.914	3.897473	17.87	100.3
India-1-2	0.041	0.1127	0	0	9.7665	58.2165	0.2447	10.616	0.061	0.4405	20.209	0.019	0.003	99.73	3.182574	17.35	100.05
India-1-3	0.0152	0.1049	0	0	9.8874	57.646	0.3435	10.332	0.084	0.4352	21.016	0.059	0.106	100.03	3.510013	17.86	100.38
India-1-4	0.0415	0.3509	0.0013	0.0412	10.598	55.9367	0.1562	10.884	0.02	0.2266	20.994	0.093	0.051	99.394	4.192779	17.22	99.814
India-1-5	0.0139	0.0238	0	0.0149	10.885	55.816	0.2345	10.562	0	0.2841	21.419	0.101	0.25	99.603	4.483101	17.38	100.05
India-1-17	0	0.0198	0.0251	0.0056	22.447	47.5938	0.1031	13.621	0.013	0.2323	15.73	0.055	0.265	100.11	1.371023	14.5	100.25
India-1-21	0	0.0656	0.0079	0	23.899	45.0816	0.2008	12.808	0.022	0.3249	17.203	0.028	0.227	99.868	1.312555	16.02	99.999
India-1-22	0.033	0.0135	0	0	27.037	42.9486	0.1255	13.981	0	0.247	14.777	0.075	0.22	99.457	0.297198	14.51	99.487
India-1-24	0	0	0.0209	0.0511	17.873	52.3128	0.1688	12.248	0.006	0.2318	16.834	0.111	0.234	100.09	0.9851	15.95	100.19
India-1-27	0	0.144	0.0171	0	21.837	47.5764	0.1096	12.841	0.011	0.2624	17.283	0.111	0.359	100.55	1.776299	15.69	100.73
India-1-32	0.0274	0	0	0.0311	24.949	44.9713	0.2974	13.795	0	0.1055	15.537	0.085	0.423	100.22	0.680212	14.92	100.29
India-1-37	0.0107	0.0811	0.0317	0.0288	23.159	46.2254	0.2735	12.739	0.036	0.2224	17.588	0.026	0.384	100.81	1.284523	16.43	100.93
India-1-40	0.0088	0.0373	0	0	14.354	55.7044	0.265	10.568	0	0.285	18.196	0.028	0.254	99.7	0.223806	18	99.723
India-1-41	0.0094	0	0	0.0077	22.487	47.7072	0.112	13.49	0.008	0.4313	15.37	0.05	0.262	99.934	1.034376	14.44	100.04
India-1-44	0	0.077	0.0248	0.0333	18.508	50.8698	0.1874	12.329	0.028	0.1951	17.571	0.03	0.339	100.19	1.684454	16.05	100.36
India-1-45	0.0173	0	0	0.0223	10.373	55.5382	0.2802	9.9745	0.075	0.3918	22.249	0.107	0.112	99.14	4.67961	18.04	99.608
India-1-47	0.0094	0.0345	0	0.0323	23.142	46.0001	0.1938	12.673	0.003	0.3024	17.342	0.103	0.297	100.13	1.396965	16.08	100.27
India-1-48	0.0245	0.7297	0	0	7.3454	56.8373	0.1761	9.2332	0.037	0.5226	24.443	0.117	0.206	99.671	5.829995	19.2	100.26
India-1-49	0.0326	0.0469	0	0	9.9511	56.4392	0.2894	10.302	0.032	0.5086	22.063	0.026	0.114	99.806	4.780596	17.76	100.28
India-1-50	0.0059	0.0493	0	0	11.591	55.11	0.246	10.83	0.042	0.5394	20.931	0.102	0.197	99.644	4.521494	16.86	100.1
India-1-51	0.0262	0.0744	0	0	11.982	53.7539	0.2854	9.9751	0.048	0.3873	22.745	0.07	0.25	99.598	4.760829	18.46	100.08
India-1-52	0.0022	0.0662	0.0263	0	22.471	46.4369	0.2427	12.655	0.013	0.2938	17.226	0.057	0.249	99.737	1.283998	16.07	99.865
India-1-53	0.0113	0.47	0	0.0799	6.7741	55.8817	0.4173	9.9773	0.03	0.3891	24.957	0.045	0.22	99.252	7.4852	18.22	100
India-1-54	0.0059	0.0905	0.0486	0	8.598	56.7748	0.2218	10.693	0.083	0.3255	23.107	0.063	0.069	100.08	6.626932	17.14	100.74
India-1-55	0.0012	0.1429	0	0.0377	8.309	57.1524	0.1816	9.9426	0.019	0.1882	23.311	0.126	0.162	99.572	5.803487	18.09	100.15
India-1-56	0	0.1697	0	0.0101	9.8063	53.8597	0.3667	9.5981	0.091	0.2651	25.089	0.058	0.186	99.499	6.741483	19.02	100.17
India-1-57	0.0304	0	0.0422	0.002	9.8814	57.1172	0.2884	10.189	0.018	0.3658	21.464	0.112	0.09	99.6	3.918234	17.94	99.993
India-1-58	0	0.0523	0	0.0142	10.818	54.0441	0.2876	9.483	0.023	0.232	24.501	0.107	0.252	99.815	5.86505	19.22	100.4
India-1-59	0.0126	2.3836	0.0325	0.0297	0.9092	56.654	0.4486	7.6252	0.023	0.446	30.899	0.143	0.011	99.618	8.924581	22.87	100.51
India-1-61	0.0157	0.0848	0.0013	0	3.747	57.4939	0.3828	8.2939	0.084	0.4776	28.155	0.18	0.205	99.121	9.494264	19.61	100.07
India-1-63	0.0121	0	0	0.0304	24.462	44.3447	0.2527	13.695	0.054	0.1324	15.961	0.039	0.244	99.229	1.377951	14.72	99.367
India-1-64	0.0034	0.0555	0.0558	0	24.379	44.4461	0.2676	12.929	0	0.2799	17.353	0.1	0.225	100.09	1.352992	16.14	100.23
India-1-65	0.0183	0.0306	0	0.0738	10.439	57.5148	0.2324	10.862	0	0.4892	20.012	0.1	0.165	99.936	3.510199	16.85	100.29
India-1-67	0.0142	0.165	0.004	0.0174	20.392	43.6688	0.2063	10.278	0	0.293	24.402	0.095	0.118	99.654	5.385906	19.56	100.19
India-1-68	0.0228	1.0527	0.0403	0.0292	3.0291	58.0272	0.3276	8.4643	0.025	0.368	28.142	0.102	0.255	99.885	8.468057	20.52	100.73
India-1-69	0.0174	0.1228	0	0.0316	14.349	47.0059	0.1957	10.249	0.042	0.4367	26.428	0.068	0.267	99.213	9.126633	18.22	100.13
India-1-70	0.0149	0.0602	0.0116	0	11.407	54.944	0.3673	10.718	0	0.2265	21.03	0.112	0.189	99.081	4.032772	17.4	99.485
India-1-71	0.0221	0.0883	0	0	11.593	55.1384	0.4666	10.918	0.033	0.4271	20.742	0.058	0.109	99.595	3.77185	17.35	99.973
India-1-72	0.016	0	0	0	20.99	46.1198	0.3944	11.475	0.033	0.3546	19.896	0.005	0.391	99.674	2.500217	17.65	99.925
India-1-73	0.0111	0.1186	0	0.0681	8.7182	55.5668	0.2529	9.345	0.065	0.5098	24.427	0.049	0.27	99.402	6.328068	18.73	100.04
India-1-75	0.0066	0.0611	0	0.0063	23.451	44.567	0.2789	12.621	0.023	0.39	17.986	0.069	0.29	99.751	2.020695	16.17	99.953
India-1-76	0.0071	0.2369	0	0.0313	19.4	45.1877	0.1219	11.458	0.01	0.4334	22.339	0.06	0.161	99.447	5.602223	17.3	100.01
India-1-78	0.0132	0.2266	0.0383	0	22.772	45.7323	0.2593	12.019	0	0.3267	18.636	0.019	0.238	100.28	1.274597	17.49	100.41
India-1-79	0.0131	2.8205	0.0062	0	1.2091	55.1539	0.4969	7.7975	0.038	0.4472	30.614	0.223	0.205	99.025	8.888408	22.62	99.915
India-1-80	0	0.0025	0.0039	0.0077	20.483	46.3029	0.1982	11.938	0.046	0.3919	19.722	0.121	0.243	99.46	3.624249	16.46	99.823
India-1-81	0.0309	0.0222	0	0.0041	11.735	54.3707	0.396	10.743	0.006	0.3847	22.033	0.147	0.232	100.11	4.992844	17.54	100.61

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
India-1-1	core	0.0106	52.52	0.0558	0.0453	0	1.9537	0.0887	10.231	0	0.307	33.852	0.091	0.085	99.241	5.6533	28.77	99.807	58.022	36.813	5.165	100
India-1-2	core	0.0129	52.785	0.1213	0	0.1156	2.3186	0.1096	11.214	1E-04	0.351	32.468	0.087	0.037	99.62	5.708	27.33	100.19	54.792	40.060	5.148	100
India-1-3	core	0	53.184	0.0656	0.0052	0.0904	2.3044	0.0293	11.031	0	0.415	32.562	0.104	0	99.792	5.328	27.77	100.33	55.729	39.456	4.815	100
India-1-4	core	0.0072	52.229	0.1402	0.0194	0.2404	2.0308	0.0522	12.106	0	0.284	32.145	0.082	0	99.336	7.6263	25.28	100.1	50.259	42.904	6.837	100
India-1-5	core	0.0183	52.28	0.0717	0.0342	0.1738	2.1067	0.0637	10.373	0.016	0.45	33.87	0.07	0	99.526	6.2924	28.21	100.16	56.927	37.333	5.740	100
India-1-6	core	0.0065	52.915	0.0581	0.0432	0.1106	2.249	0	10.89	0	0.375	32.196	0.153	0.074	99.072	5.0159	27.68	99.574	56.058	39.339	4.603	100
India-1-7	core	0.0227	52.016	0.0742	0.018	0.0162	1.7046	0.2182	10.052	0	0.305	34.829	0.122	0	99.377	6.5881	28.9	100.04	58.044	35.989	5.967	100
India-1-8	core	0.0193	52.69	0.0446	0.0064	0.2017	2.3186	0.0874	10.804	0.009	0.361	32.975	0.117	0.042	99.675	5.7318	27.82	100.25	56.023	38.779	5.198	100
India-1-9	core	0.007	52.842	0.0742	0.0831	0.1542	2.2074	0.1592	11.144	0.076	0.423	32.52	0.066	0.233	99.988	5.8469	27.26	100.57	54.715	39.940	5.345	100
India-1-10	core	0.0123	53.017	0.068	0	0.1031	2.2224	0	10.981	0.015	0.373	32.586	0.085	0.053	99.515	5.4623	27.67	100.06	55.680	39.374	4.945	100
India-1-11	core	0.0028	51.975	0.0742	0	0	1.7579	0.2791	9.6362	0.005	0.42	35.248	0.005	0.019	99.422	6.2348	29.64	100.05	59.736	34.610	5.654	100
India-1-12	core	0.0024	53.505	0.0928	0.137	0.1206	1.6373	0.3564	10.936	0.011	0.261	32.303	0.075	0	99.438	3.6366	29.03	99.802	57.756	38.890	3.354	100
India-1-13	core	0.0037	53.05	0.0556	0.0309	0.1403	2.3422	0.0871	11.164	0	0.314	32.222	0.125	0.053	99.588	5.1926	27.55	100.11	55.314	39.972	4.714	100
India-1-14	core	0.0079	54.226	0.0471	0	0.2066	1.8001	0	11.325	0	0.285	32.073	0.136	0	100.11	4.2801	28.22	100.54	56.075	40.099	3.826	100
India-1-15	core	0.0205	52.447	0.0791	0	0.0237	1.8481	0.1833	10.256	0.023	0.396	34.228	0.07	0	99.574	6.0447	28.79	100.18	57.827	36.711	5.463	100
India-1-16	core	0.0321	52.466	0.0197	0	0.0828	2.063	0.2759	10.39	0.026	0.298	33.573	0.113	0	99.34	5.398	28.72	99.881	57.825	37.284	4.890	100
India-1-17	core	0.0084	53.046	0.0669	0	0.1276	2.2192	0	11.218	0.01	0.342	32.246	0.052	0.016	99.351	5.4175	27.37	99.894	54.964	40.141	4.894	100
India-1-18	core	0.0097	52.18	0.1192	0.0678	0.0322	1.715	0	11.432	0.027	0.332	33.385	0.071	0	99.372	7.8792	26.3	100.16	52.304	40.590	7.107	100
India-1-19	core	0.0202	53.732	0.0805	0.0148	0.1707	2.2227	0	11.058	0.007	0.33	32.37	0.036	0.013	100.05	4.4731	28.34	100.5	56.605	39.365	4.030	100
India-1-20	core	0	52.133	0.1151	0.0477	0.074	2.1476	0.1079	10.114	0.023	0.215	34.298	0.103	0.087	99.465	6.1548	28.76	100.08	57.996	36.383	5.621	100
India-1-21	core	0.0034	42.581	0.2984	0.0065	0.0537	0.8279	0.1492	4.9525	0.015	0.243	48.576	0.081	0.105	97.893	21.093	29.6	100.01	61.767	18.421	19.812	100
India-1-22	core	0.0216	52.892	0.0544	0.0309	0.1153	2.0566	0	10.654	0.057	0.347	33.045	0.122	0.087	99.482	5.5348	28.06	100.04	56.622	38.330	5.048	100
India-1-23	core	0.0029	52.774	0.078	0.0586	0.0851	2.0583	0.1892	10.749	0.003	0.303	32.723	0.077	0.04	99.14	4.9053	28.31	99.631	56.940	38.577	4.483	100
India-1-24	core	0.0123	53.683	0.0966	0.0206	0.0712	1.6201	0.0671	11.066	0	0.378	32.968	0.054	0	100.04	5.1205	28.36	100.55	56.270	39.143	4.586	100
India-1-25	core	0.0433	53.15	0.072	0.0026	0.1936	2.3821	0	11.194	0	0.398	31.876	0.154	0	99.466	4.9433	27.43	99.961	55.296	40.218	4.486	100
India-1-26	core	0.006	44.031	0.2819	0.0504	0.0294	2.1232	0.2658	5.9056	0.019	0.344	45.123	0.005	0.016	98.2	17.426	29.44	99.946	61.541	22.020	16.439	100
India-1-27	core	0.01	53.254	0.0335	0.0213	0.1309	2.4113	0.0911	11.307	0.008	0.382	31.748	0.131	0	99.528	4.8062	27.42	100.01	55.119	40.519	4.362	100
India-1-28	core	0.0322	53.947	0.0273	0.0097	0.211	1.7496	0	11.334	0	0.248	31.793	0.066	0.103	99.521	4.2352	27.98	99.946	55.860	40.329	3.811	100
India-1-29	core	0.0069	53.39	0.0965	0.0155	0.0384	2.1493	0	10.652	0.017	0.322	33.085	0.077	0.053	99.901	4.8911	28.68	100.39	57.507	38.069	4.423	100
India-1-30	core	0.0089	53.224	0.0608	0	0.065	2.2032	0	10.961	0.018	0.293	32.257	0.171	0	99.262	4.8179	27.92	99.744	56.269	39.363	4.368	100
India-1-31	core	0.0184	53.175	0.0731	0.0052	0.1363	2.3714	0	11.172	0	0.263	32.333	0.075	0.045	99.668	5.2221	27.63	100.19	55.382	39.905	4.713	100
India-1-32	core	0	54.641	0.1215	0.0265	0.354	2.5767	0	12.668	0	0.26	29.095	0.205	0.029	99.976	3.1901	26.22	100.3	52.179	44.946	2.875	100
India-1-33	core	0.0326	52.613	0.0979	0.0103	0.0744	2.1197	0.0429	10.292	0.075	0.272	33.55	0.014	0.082	99.275	5.351	28.74	99.811	58.063	37.065	4.872	100
India-1-34	core	0	52.273	0.1102	0.0567	0.0602	1.8483	0.172	10.066	0.03	0.405	34.38	0.009	0.024	99.433	5.9571	29.02	100.03	58.411	36.150	5.439	100
India-1-35	core	0.0153	52.549	0.073	0.0013	0.0693	1.9304	0.2308	10.056	0.056	0.426	34.635	0.058	0.034	100.13	6.0304	29.21	100.74	58.602	35.953	5.444	100
India-1-36	core	0	52.852	0.0917	0	0.1765	2.558	0	11.089	0.029	0.337	32.253	0.124	0	99.51	5.4277	27.37	100.05	55.212	39.862	4.926	100
India-1-37	core	0.0234	49.318	0.2004	0.02	0.036	1.6723	0.1823	7.6854	0.032	0.328	39.825	0	0.074	99.396	10.073	30.76	100.41	62.775	27.960	9.265	100
India-1-38	core	0	52.856	0.0719	0.0168	0.1308	2.4542	0.189	11.044	0	0.337	31.976	0.061	0.037	99.175	4.636	27.8	99.639	56.074	39.707	4.219	100
India-1-39	core	0.0011	52.044	0.1151	0	0	1.5341	0.2155	9.5555	0	0.373	35.657	0.003	0	99.498	6.445	29.86	100.14	59.973	34.203	5.824	100
India-1-40	core	0.0058	52.098	0.1612	0.0291	0	1.7635	0.0633	10.243	0.041	0.26	34.956	0.045	0	99.666	7.1318	28.54	100.38	57.051	36.512	6.438	100
India-1-41	core	0	51.046	0.1436	0.0658	0.0458	1.6212	0	9.3692	0	0.404	36.628	0.08	0.037	99.44	8.603	28.89	100.3	58.351	33.776	7.873	100
India-1-42	core	0	52.456	0.0631	0.0348	0.0279	1.8996	0.0115	10.034	0	0.338	34.615	0.084	0.048	99.611	6.3133	28.93	100.24	58.238	36.017	5.744	100
India-1-43	core	0	52.494	0.1103	0	0.0493	1.8969	0.1933	10.39	0	0.332	33.452	0.045	0	98.962	5.2416	28.74	99.487	57.926	37.321	4.754	100
India-1-44	core	0.0073	52.713	0.0508	0.0136	0.0638	1.9723	0.0309	10.481	0.04	0.334	33.506	0.075	0	99.287	5.6906	28.39	99.857	57.190	37.641	5.169	100
India-1-45	core	0.01	50.136	0.1015	0.0858	0.055	1.3192	0.2774	8.3593	0.021	0.42	38.624	0.017	0.071	99.497	9.2808	30.27	100.43	61.271	30.205	8.523	100
India-1-46	core	0	53.042	0.072	0.0795	0.1586	2.2728	0	11.38	0.011	0.326	32.279	0.105	0.048	99.773	5.7987	27.06	100.35	54.102	40.620	5.278	100
India-1-47	core	0.0056	53.117	0.0669	0	0.1216	2.0476	0.0819	10.513	0.025	0.332	33.87	0.127	0.056	100.36	5.7458	28.7	100.94	57.377	37.455	5.168	100
India-1-48	core	0.0234	52.654	0.0843	0.0194	0.1244	2.0417	0.1078	10.619	0	0.366	33.266	0.105	0.037	99.448	5.6038	28.22	100.01	56.807	38.104	5.089	100
India-1-49	core	0	53.553	0.0806	0	0.1225	2.3761	0	11.334	0.06	0.283	32.318	0.096	0.127	100.35	5.377	27.48	100.89	54.854	40.317	4.829	100
India-1-50	core	0.0214	53.34	0.0682	0	0.1102	2.2754	0	10.83	0.067	0.436	32.862	0.122	0.072	100.2	5.3373	28.06	100.74	56.391	38.784	4.826	100
India-1-51	core	0	51.135	0.1987	0.0194	0.101	2.0081	0.2639	11.2	0.033	0.285	34.323	0.08	0.05	99.697	9.0094	26.22	100.6	52.175	39.741	8.084	100
India-1-52	core	0.0209	53.54	0.0409	0	0.199	2.1451	0.0112	12.092	0.03	0.274	30.954	0.113	0.003	99.424	5.2202	26.26	99.947	52.353	42.964	4.683	100
India-1-53	core	0.0064	52.641	0.052	0	0.1187	1.9902	0	10.556	0.014	0.508	33.47	0.049	0	99.406	6.0665	28.01	100.01	56.530	37.962	5.508	100
India-1-54	core	0.023	49.898	0.1845	0.0084	0	1.8542	0.1229	8.7309	0.01	0.337	37.532	0.047	0	98.748	9.1043	29.34	99.66	59.877	31.757	8.366	100
India-1-55	core	0.0126	52.75	0.0954	0	0.1712	2.2819	0.1899	10.623	0	0.413	33.001	0.134	0.008	99.681	5.1473	28.37	100.2	57.179	38.153	4.667	100
India-1-56	core	0.0019	53.548	0.0893	0.0045	0.0655	2.2105	0	11.148	0.067	0.466	32.277	0.058	0.066	100	5.067	27.72	100.51	55.584	39.842	4.575	100
India-1-57	core	0.019	52.694	0.0943	0.0639	0.1114	2.0166	0	10.387	0.045	0.295	33.962	0.049	0	99.737	5.9161	28.64	100.33	57.437	37.176	5.388	100
India-1-58	core	0.0119	52.877	0.0571	0	0.1105	2.3755	0.0176	11.057	0.057	0.271	32.313	0.129	0.058	99.335	5.4292	27.43	99.878	55.327	39.745	4.927	100
India-1-59	core	0	52.726	0.0819	0	0.1249	2.2228	0	10.559	4E-04	0.336	33.646	0.066	0.027	99.789	5.9871	28.26	100.39	56.780	37.807	5.412	100
India-1-60	core	0.017	53.375	0.0608	0	0.1647	2.0771	0.0597	10.846	0.05	0.299	32.477	0.059	0.085	99.57	4.5839	28.35	100.03	56.999	38.855	4.146	100
India-1-61	core	0.0221	54.964	0.0607	0	0.3368	2.1896	0	11.597	0.061	0.332	31.387	0.071	0.05	101.07	3.4006	28.33	101.41	56.069	40.903	3.028	100
India-1-62	core	0.0255	53.676	0.082	0	0.3074	2.442	0.0122	11.821	0.03	0.324	30.819	0.117	0.051	99.707	4.447	26.82	100.15	53.760	42.229	4.011	100
India-1-63	core	0.0154	53.032	0.0434	0.0601	0.1126	2.2648	0	10.756	0.044	0.369	32.519	0.105	0	99.321	4.9155	28.1	99.813	56.733	38.756	4.511	100
India-1-64	core	0.0235	52.88	0.0633	0.0478	0.0816	1.9861	0.0092	10.34	0	0.37	33.452	0.096	0.074	99.424	5.2411	28.74	99.949	57.985	37.221	4.795	100
India-1-65	core	0.0134	52.781	0.0671	0.062	0.1528	1.8992	0.0653	10.504	0	0.392	32.976	0.038	0	98.951	4.9261	28.54	99.444	57.632	37.846	4.522	100
India-1-66	core	0.0056	52.186	0.1326	0.0503	0.0093	1.7897	0.1516	9.8237	0.037	0.417	34.291	0.002	0.117	99.011	5.5786	29.27	99.57	59.343	35.530	5.127	100
India-1-67	core	0	52.861	0.052	0	0.1372	2.257	0.0437	10.844	0	0.384	32.625	0.084	0	99.287	5.2862	27.87	99.817	56.220	38.982	4.798	100
India-1-68	core	0.0148	52.404	0.0954	0.0426	0.0561	1.9202	0.0238	9.7322	0.009	0.348	34.255	0.042	0	98.943	5.2143	29.56	99.465	59.985	35.222	4.793	100
India-1-69	core	0.0169	52.53	0.1191	0.0304	0.066	1.9861	0.028	10.314	0.042	0.403	33.702	0.054	0.074	99.364	5.7892	28.49	99.944	57.560	37.154	5.285	100
India-1-70	core	0.0111	45.825	0.28	0.0841	0	1.9054	0.2622	6.4585	0.02	0.294	43.291	0.035	0	98.466	14.629	30.13	99.932	62.404	23.882	13.715	100
India-1-71	core	0	52.651	0.098	0.011	0.1077	1.9417	0.1048	10.3	0.026	0.381	33.666	0.037	0.037	99.361	5.4259	28.78	99.905	58.047	37.022	4.931	100
India-1-72	core	0	52.941	0.0931	0.0342	0.1004	1.9748	0.0208	10.622	0.027	0.357	33.155	0.091	0	99.417	5.3392	28.35	99.952	57.033	38.109	4.858	100
India-1-73	core	0	52.864	0.0485	0.0006	0.0728	1.9903	0.0622	10.49	0.025	0.324	33.807	0.115	0	99.799	5.868	28.53	100.39	57.214	37.491	5.295	100
India-1-74	core	0.0093	53.605	0.0893	0.0103	0.0687	1.6849	0.0189	10.971	0.022	0.302	32.858	0.092	0.058	99.789	5.0379	28.32	100.29	56.480	38.993	4.527	100
India-1-75	core	0.004	53.214	0.1106	0	0.112	2.38	0	11.042	0	0.322	32.369	0.114	0.029	99.696	5.0332	27.84	100.2	55.925	39.526	4.549	100
India-1-76	rim	0.0148	52.567	0.1019	0.0343	0.0553	1.9757	0.1032	10.408	0.009	0.32	33.802	0.129	0	99.52	5.805	28.58	100.1	57.428	37.297	5.275	100
India-1-77	core	0.0008	52.393	0.0695	0.0607	0.0782	1.969	0.1368	10.367	0.02	0.288	33.485	0.065	0.109	99.042	5.5438	28.5	99.597	57.554	37.362	5.084	100
India-1-78	rim	0	52.457	0.1105	0	0.0407	1.898	0.0486	10.587	0.007	0.433	33.768	0.091	0.032	99.471	6.4758	27.94	100.12	56.197	37.944	5.860	100
India-1-79	core	0.0034	52.424	0.0968	0.0524	0.1069	1.85	0	10.061	0.024	0.415	34.388	0.129	0.117	99.667	6.3449	28.68	100.3	57.933	36.259	5.808	100
India-1-80	rim	0.0177	50.285	0.0806	0	0.0129	2.5574	0.2924	9.1905	0.018	0.359	35.93	0.079	0.04	98.862	7.7962	28.91	99.643	59.252	33.561	7.188	100

India-1 Ilmenite

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
India-1-81	core	0.0031	50.829	0.1214	0	0.0896	2.8256	0.075	9.1959	0.018	0.262	35.713	0.007	0	99.139	7.1496	29.28	99.855	59.897	33.523	6.580	100
India-1-82	rim	0.0005	54.453	0.041	0	0.2464	3.1525	0.1191	12.876	6E-04	0.346	28.518	0.112	0.016	99.88	3.0394	25.78	100.18	51.468	45.802	2.730	100
India-1-83	core	0.013	54.362	0.1108	0	0.2354	3.2159	0.0528	13.222	0.039	0.246	27.937	0.191	0.067	99.692	3.2632	25	100.02	49.970	47.095	2.934	100
India-1-84	rim	0	52.841	0.1067	0.0013	0.0494	2.0355	0.1478	10.531	0.001	0.323	33.507	0.111	0.09	99.745	5.4691	28.59	100.29	57.386	37.673	4.941	100
India-1-85	core	0	53.021	0.0682	0.0006	0.1186	2.1248	0	10.323	0.003	0.3	33.912	0.074	0	99.944	5.4816	28.98	100.49	58.143	36.908	4.949	100
India-1-7*	core	0.0134	52.751	0.1003	0.0567	0.1151	1.9977	0.1636	10.609	0	0.303	32.941	0.078	0.032	99.161	4.8903	28.54	99.651	57.435	38.094	4.470	100
India-1-8*	core	0.0255	52.757	0.0841	0	0.136	2.3148	0	10.932	0	0.375	32.142	0.115	0	98.881	5.0562	27.59	99.388	55.915	39.476	4.610	100
India-1-9*	core	0.003	54.196	0.0509	0.0168	0.3003	1.8727	0.0636	11.628	0	0.299	30.81	0.135	0.114	99.488	3.51	27.65	99.84	55.341	41.487	3.173	100
India-1-10*	core	0	52.536	0.0544	0.0181	0.1432	2.124	0.3185	10.871	0	0.336	32.624	0.124	0.042	99.192	5.1973	27.95	99.713	56.263	39.016	4.721	100
India-1-11*	core	0.0354	53.628	0	0.0213	0.2712	2.233	0	12.417	0	0.327	29.842	0.145	0	98.92	4.6227	25.68	99.383	51.458	44.359	4.183	100
India-1-12*	core	0.0007	52.843	0.0185	0.051	0.0941	2.1418	0	10.882	0.009	0.287	32.721	0.08	0	99.129	5.4665	27.8	99.676	55.945	39.067	4.988	100
India-1-13*	core	0.0135	52.119	0.1454	0.0835	0.1467	1.5373	0.1709	12.317	0.065	0.312	31.98	0.195	0	99.086	7.9488	24.83	99.883	49.226	43.615	7.160	100
India-1-14*	core	0.0134	52.975	0.0446	0	0.126	2.0281	0.3801	11.057	0.01	0.412	32.513	0.068	0	99.628	4.9005	28.1	100.12	56.194	39.397	4.409	100
India-1-15*	core	0	52.528	0.0769	0.0103	0.1019	1.9147	0.0742	10.955	0.009	0.287	32.856	0.131	0.043	98.987	6.0021	27.46	99.588	55.257	39.300	5.443	100
India-1-16*	core	0.0214	53.896	0.0038	0.0658	0.2289	1.9421	0.232	11.709	0.087	0.295	30.856	0.133	0	99.469	3.7275	27.5	99.843	54.893	41.711	3.395	100
India-1-18*	core	0.0177	53.982	0.0409	0.0284	0.2047	1.6622	0.0196	11.242	0.018	0.271	31.73	0.134	0.032	99.384	3.9573	28.17	99.781	56.332	40.087	3.581	100
India-1-19*	core	0.0334	53.145	0.0086	0.0464	0.1979	2.562	0	11.033	0.003	0.276	32.018	0.169	0.035	99.526	4.7616	27.73	100	55.943	39.701	4.356	100
India-1-20*	core	0.0091	53.566	0.0707	0	0.1357	1.9883	0.1079	11.163	0	0.296	31.655	0.122	0.029	99.144	3.9607	28.09	99.541	56.446	39.973	3.581	100
India-1-23*	core	0.0274	52.579	0.0124	0.0787	0.1001	2.6103	0	11.26	0.008	0.268	31.954	0.138	0	99.036	5.6169	26.9	99.599	54.277	40.563	5.160	100
India-1-25*	core	0	49.28	0.2635	0.0233	0.0883	1.9465	0.1038	9.5891	0.031	0.22	37.303	0.068	0.08	98.997	11.126	27.29	100.11	55.242	34.606	10.152	100
India-1-26*	core	0.0349	53.77	0.067	0	0.3061	2.3841	0.0325	12.096	0.041	0.222	30.013	0.131	0	99.098	3.8398	26.56	99.483	53.286	43.248	3.466	100
India-1-28*	core	0.0031	54.912	0.0784	0	0.3708	2.9036	0.016	13.62	0.009	0.23	26.801	0.27	0.069	99.283	2.3822	24.66	99.521	49.316	48.541	2.144	100
India-1-29*	core	0.0161	53.213	0.0632	0.0232	0.1507	1.8662	0.005	11.078	0.018	0.369	32.122	0.105	0.069	99.098	4.9558	27.66	99.594	55.713	39.779	4.508	100
India-1-30*	core	0.0212	53.837	0.0397	0	0.2689	2.1979	0.0956	11.593	0.011	0.177	31.163	0.086	0.048	99.537	3.8977	27.66	99.927	55.237	41.261	3.502	100
India-1-31*	core	0.0142	54.211	0.0484	0	0.2306	1.8617	0.1086	11.365	0.006	0.26	31.363	0.077	0	99.545	3.3009	28.39	99.875	56.639	40.399	2.963	100
India-1-33*	core	0.0014	52.954	0.0781	0	0.0894	2.0391	0.0952	10.542	0.023	0.424	33.158	0.052	0.003	99.458	5.1107	28.56	99.97	57.528	37.840	4.632	100
India-1-34*	core	0.0077	53.477	0.0435	0	0.1661	2.1418	0	11.311	0	0.407	32.132	0.089	0.093	99.868	5.2476	27.41	100.39	54.900	40.371	4.729	100
India-1-35*	core	0.0199	52.726	0.1141	0.0316	0.2283	2.4961	0.0813	11.191	0.069	0.267	31.845	0.079	0.024	99.172	5.0374	27.31	99.677	55.124	40.278	4.598	100
India-1-36*	core	0.0403	53.936	0.1055	0.0478	0.149	2.0287	0.0375	11.175	0.055	0.445	32.041	0.171	0	100.23	4.318	28.16	100.66	56.253	39.830	3.917	100
India-1-38*	core	0.0153	52.761	0.1054	0.0219	0.0492	1.9319	0	10.828	0	0.239	33.06	0.077	0	99.088	5.6454	27.98	99.653	56.147	38.740	5.114	100
India-1-39*	core	0.0161	47.91	0.2723	0.0194	0.0582	1.9478	0.1864	7.225	0.009	0.374	40.54	0	0	98.559	11.226	30.44	99.683	62.919	26.624	10.457	100
India-1-42*	core	0.0078	45.946	0.2206	0.0091	0.046	1.7647	0.3596	6.6425	0.036	0.293	42.661	0.043	0.15	98.18	14.311	29.78	99.614	61.964	24.631	13.404	100
India-1-43*	core	0	52.797	0.0819	0	0.1839	2.2876	0	10.959	0.004	0.24	32.407	0.081	0.032	99.074	5.2502	27.68	99.6	55.841	39.394	4.765	100
India-1-46*	core	0.0146	52.275	0.1191	0.0581	0.1232	1.8536	0.2299	10.059	0	0.336	34.455	0.061	0.122	99.706	5.9238	29.12	100.3	58.530	36.069	5.401	100
India-1-60*	core	0.0216	52.335	0.0286	0.0116	0.3851	5.7344	0	12.743	0	0.236	27.049	0.239	0	98.784	3.4446	23.95	99.129	49.668	47.109	3.223	100
India-1-62*	core	0.0305	49.818	0.2074	0.0621	0.0295	1.7991	0	9.2962	0	0.366	37.23	0	0.058	98.897	10.133	28.11	99.912	57.037	33.659	9.304	100
India-1-66*	core	0.003	54.336	0.1095	0	0.3894	2.019	0	12.662	0.039	0.165	29.561	0.189	0.005	99.479	3.9392	26.02	99.873	51.669	44.811	3.520	100
India-1-74*	core	0.0033	45.531	0.2331	0.035	0	1.9308	0.288	6.3612	0.028	0.353	43.288	0.045	0.121	98.217	14.992	29.8	99.719	62.204	23.681	14.115	100
India-1-77*	core	0.0016	52.988	0.0721	0.0207	0.065	2.2138	0.0374	11.013	0	0.401	32.613	0.091	0.093	99.609	5.5699	27.6	100.17	55.480	39.467	5.053	100

* These ilmenite grains were mixed in with the India-1 chromite analyses

India-1 Pyroxene

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
India-1-3	54.891	0.2776	1.6839	1.116	15.775	20.37	0.0515	3.81	0.006	2.0188	0	100
India-1-5	54.512	0.396	3.9341	1.8725	15.145	16.22	0.0856	3.696	0.047	3.4383	0	99.351
India-1-6	53.793	0.5415	5.0785	1.5857	14.485	20.53	0.0744	1.559	0.022	2.6231	0	100.3
India-1-7	54.875	0.3464	3.7314	1.7132	15.368	16.72	0.0999	3.752	0.044	3.2168	0.026	99.895
India-1-8	54.509	0.2848	1.8222	1.5061	15.147	19.72	0.0985	3.601	0.012	2.3097	0	99.009
India-1-9	54.842	0.252	1.536	1.1242	15.803	20.21	0.1529	3.881	0.009	2.0192	0	99.832
India-1-1	56.478	0.0283	0.9881	0.1935	32.36	0.19	0.1574	9.893	0.073	0.0028	0	100.36

India-1 Olivine

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
India-1-1	40.115	0.0354	0	0.0253	45.382	0.022	0.1713	14.36	0.043	0.0076	0.005	100.17
India-1-2	39.989	0.0102	0	0.0271	45.796	0.026	0.2021	13.98	0.065	0.0049	0	100.1
India-1-3	39.858	0.0186	0	0.0236	45.503	0.027	0.2233	14.22	0.063	0.009	0.005	99.952
India-1-4	40.161	0.0037	0	0.0022	45.651	0.018	0.2049	13.9	0.137	0.0064	0	100.09
India-1-5	40.073	0.0102	0	0.0195	45.523	0.044	0.2247	14.38	0.075	0.0129	0	100.36
India-1-6	39.991	0.0234	0	0.0266	47.146	0	0.1845	12.3	0.09	0.0166	0.002	99.778
India-1-7	40.15	0.0019	0	0.026	45.742	0	0.17	13.87	0.09	0.0063	0	100.05
India-1-8	39.841	0.0353	0	0.0156	45.459	0.016	0.2329	14.5	0.044	0.0068	0.023	100.18
India-1-9	39.826	0.0144	0	0	45.387	0.027	0.2332	14.14	0.088	0	0.04	99.756
India-1-10	40.286	0.0299	0	0.0402	46.78	0.058	0.2124	12.42	0.12	0.0127	0.016	99.972
India-1-11	40.145	0.0135	0	0.0371	45.957	0.014	0.222	13.49	0.083	0.01	0	99.976
India-1-12	41.185	0	0	0.0139	50.467	0	0.0608	8.059	0.284	0	0	100.07
India-1-13	39.802	0.0255	0.0149	0.0319	44.489	0	0.2509	15.67	0.029	0.0025	0.029	100.35
India-1-14	40.145	0.0265	0.0059	0	45.497	0.019	0.1827	14.21	0.044	0.0014	0.019	100.15
India-1-15	41.058	0.0305	0.0111	0.0309	48.203	0.02	0.1313	10.53	0.268	0.0123	0.005	100.3
India-1-16	40.075	0.014	0	0.0386	45.894	0	0.2178	13.89	0.059	0.0018	0.047	100.24

Sample	colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO*	NiO	Na2O	K2O	Total	I.D.
KL-gar-1	purple	41.2	0.19	16.93	8.65	20.5	5.68	0.29	6.32	0.01	0.02	0	99.78	Cr-pyrope
KL-gar-2	purple	42	0.06	18.97	6.94	24.15	1.47	0.28	5.96	0.04	0.01	0	99.87	Cr-pyrope
KL-gar-3	purple	41.73	0.01	20.02	4.56	21.36	5.34	0.29	6.02	0.02	0.01	0	99.36	Cr-pyrope
KL-gar-4	purple	40.96	0.03	14.89	12.02	22.89	2.24	0.31	5.94	0.02	0.01	0	99.32	Cr-pyrope
KL-gar-5	purple	40.97	0.18	15.31	10.77	20.66	5.36	0.33	6.37	0.06	0.02	0	100.02	Cr-pyrope
KL-gar-6	purple	41.04	0.14	17.12	8.65	20.61	5.08	0.34	6.74	0	0	0	99.73	Cr-pyrope
KL-gar-7	purple	41.72	0.08	18.33	7.56	22.51	2.65	0.34	6.76	0	0.01	0	99.96	Cr-pyrope
KL-gar-8	purple	41.26	0.08	15.6	10.61	20.44	5.51	0.25	6.1	0.07	0.01	0	99.94	Cr-pyrope
KL-gar-9	purple	41.57	0.07	18.58	7.34	22.79	2.62	0.28	6.61	0.05	0	0.01	99.92	Cr-pyrope
KL-gar-10	purple	42.47	0.2	21.56	3.35	24.3	2.08	0.24	5.31	0.04	0.02	0	99.58	Cr-pyrope
KL-gar-11	purple	41.58	0.07	18.57	6.96	22.6	2.51	0.32	6.69	0	0	0	99.3	Cr-pyrope
KL-gar-12	purple	41.88	0.35	19.15	5.64	21.11	5.12	0.26	6.57	0.02	0.04	0.01	100.15	Cr-pyrope
KL-gar-13	purple	41.71	0.32	19.16	5.92	20.93	5.2	0.3	6.43	0	0.04	0	100	Cr-pyrope
KL-gar-14	purple	41.89	0.08	20.46	4.28	21.52	4.97	0.21	6.13	0.03	0.02	0	99.58	Cr-pyrope
KL-gar-15	purple	41.95	0.01	20.62	4.31	21.52	4.88	0.27	6.18	0.02	0.02	0	99.79	Cr-pyrope
KL-gar-16	purple	41.43	0.29	18.95	5.73	21.05	5.21	0.28	6.32	0	0.03	0	99.29	Cr-pyrope
KL-gar-17	purple	41.38	0.05	15.67	10.93	22.77	2.22	0.26	6.29	0.02	0	0	99.59	Cr-pyrope
KL-gar-18	purple	42.04	0.05	20.03	4.65	21.27	5.33	0.23	5.91	0.03	0.01	0	99.54	Cr-pyrope
KL-gar-19	purple	41.77	0.07	18.51	7.07	22.82	2.51	0.27	6.58	0.02	0	0	99.63	Cr-pyrope
KL-gar-20	purple	41.21	0.03	15.19	11.36	21.97	3.3	0.26	6.5	0	0	0.01	99.83	Cr-pyrope
KL-gar-21	purple	42.07	0.02	18.12	7.9	23.79	1.54	0.29	5.84	0.04	0.01	0	99.62	Cr-pyrope
KL-gar-22	purple	42.3	0.04	20.62	4.27	21.63	4.87	0.28	5.92	0	0.02	0.01	99.97	Cr-pyrope
KL-gar-23	purple	41.16	0.01	15	12.07	23.16	2.36	0.22	5.84	0.07	0	0.01	99.88	Cr-pyrope
KL-gar-24	purple	41.39	0.03	16.03	11	24.2	1.09	0.27	5.88	0.03	0	0.01	99.95	Cr-pyrope
KL-gar-25	purple	42.42	0.04	19.2	6.39	24.25	1.51	0.28	5.97	0.04	0.01	0	100.1	Cr-pyrope
KL-gar-26	purple	41.94	0.02	18.72	7.28	23.96	1.46	0.32	5.99	0.01	0	0	99.69	Cr-pyrope
KL-gar-27	purple	42.2	0.06	20.52	4.13	21.69	4.94	0.24	6.29	0	0.03	0	100.1	Cr-pyrope
KL-gar-28	purple	42.37	0.06	20.77	4.22	21.69	4.91	0.29	6.02	0.03	0.01	0	100.38	Cr-pyrope
KL-gar-29	purple	41.68	0.24	20.19	4.69	21.44	4.99	0.26	6.52	0	0.04	0	100.04	Cr-pyrope
KL-gar-30	purple	41.36	0.12	16.82	9.07	20.3	5.2	0.36	6.88	0.03	0	0.01	100.16	Cr-pyrope
KL-gar-31	purple	42.15	0	20.18	4.6	21.38	5.22	0.22	5.85	0	0.01	0	99.61	Cr-pyrope
KL-gar-32	purple	41.9	0.06	18.33	7.15	22.81	2.54	0.28	6.67	0.03	0	0	99.76	Cr-pyrope
KL-gar-33	purple	42.18	0.01	17.99	7.82	24.2	1.61	0.22	5.7	0	0.01	0.01	99.74	Cr-pyrope
KL-gar-34	purple	42.03	0.03	18.1	7.9	24.1	1.54	0.26	5.89	0.02	0.01	0	99.87	Cr-pyrope
KL-gar-35	purple	41.83	0.17	21.03	3.56	22.76	2.74	0.33	7.06	0	0	0.01	99.5	Cr-pyrope
KL-gar-36	purple	42.82	0.16	21.6	3.35	24.49	2.05	0.24	5.35	0.04	0.02	0.01	100.13	Cr-pyrope
KL-gar-37	purple	41.19	0.13	17.02	8.84	21.39	4.65	0.24	5.98	0	0.02	0	99.47	Cr-pyrope
KL-gar-38	purple	40.9	0.18	16.04	9.59	19.46	6.58	0.27	6.47	0.01	0.02	0	99.54	Cr-pyrope
KL-gar-39	purple	42.69	0.08	22.06	3.13	25.08	0.95	0.27	5.14	0	0	0	99.41	Cr-pyrope
KL-gar-40	purple	41.24	0.06	15.52	11.03	23.1	2.24	0.22	5.98	0.01	0	0.01	99.42	Cr-pyrope
KL-gar-41	purple	40.8	0.18	15.34	10.93	20.43	5.15	0.31	6.29	0.02	0.01	0.01	99.46	Cr-pyrope
KL-gar-42	purple	42.14	0.03	18.81	6.94	24.07	1.45	0.27	5.89	0	0	0	99.61	Cr-pyrope
KL-gar-43	purple	41.04	0.01	14.84	11.83	22.68	2.11	0.3	6.39	0.05	0.01	0	99.24	Cr-pyrope
KL-gar-44	purple	41.4	0.04	18.41	7.2	22.89	2.55	0.29	6.67	0.03	0.01	0.01	99.51	Cr-pyrope
KL-gar-45	purple	42.03	0.03	20.56	4.34	21.92	4.12	0.28	6.3	0.03	0.01	0.01	99.63	Cr-pyrope
KL-gar-46	purple	41.17	0.2	15.87	9.41	19.53	6.7	0.26	6.59	0.01	0.02	0	99.77	Cr-pyrope
KL-gar-47	purple	42.52	0.18	21.63	3.32	24.48	2.03	0.24	5.57	0	0.01	0	99.99	Cr-pyrope
KL-gar-48	purple	42.61	0.18	21.63	3.26	24.52	1.96	0.25	5.27	0.01	0.01	0	99.71	Cr-pyrope
KL-gar-49	purple	42.8	0.2	21.66	3.35	24.39	2.04	0.18	5.42	0	0.01	0.01	100.06	Cr-pyrope
KL-gar-50	purple	41.77	0.02	19.94	4.86	21.45	5.22	0.29	6	0.02	0.02	0	99.56	Cr-pyrope
KL-gar-51	purple	42.59	0.22	21.55	3.41	24.44	2.02	0.21	5.28	0.01	0.01	0	99.74	Cr-pyrope
KL-gar-52	purple	41.99	0.03	18.99	6.79	24.25	1.47	0.25	5.9	0.02	0.01	0	99.7	Cr-pyrope
KL-gar-53	purple	42.26	0.03	19.03	6.8	24.22	1.41	0.23	5.87	0.03	0	0	99.9	Cr-pyrope
KL-gar-54	purple	42.03	0.1	20.44	4.27	21.68	4.88	0.25	5.96	0.03	0.01	0	99.65	Cr-pyrope
KL-gar-55	purple	42.29	0.02	19.3	6.09	24.15	1.44	0.27	5.83	0	0.01	0	99.4	Cr-pyrope
KL-gar-56	purple	41.72	0.02	16.64	9.81	24.11	1.43	0.19	5.81	0	0	0	99.74	Cr-pyrope
KL-gar-57	purple	41.49	0.02	15.06	11.55	23.13	2.24	0.29	6.07	0	0.01	0	99.87	Cr-pyrope
KL-gar-58	purple	42.19	0.06	20.76	4.24	21.82	4.92	0.25	6.26	0	0.02	0	100.52	Cr-pyrope
KL-gar-59	purple	41.78	0.1	18.55	7.12	22.76	2.53	0.28	6.85	0.02	0	0	100.01	Cr-pyrope

Sample	colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO*	NiO	Na2O	K2O	Total	I.D.
KL-gar-60	purple	41.86	0.03	19.4	6.5	24.19	1.47	0.26	5.99	0.04	0	0	99.73	Cr-pyrope
KL-gar-61	purple	41.63	0.33	19.04	6.12	21.12	5.29	0.33	6.41	0	0.03	0	100.31	Cr-pyrope
KL-gar-62	purple	41.69	0.06	18.42	7.27	22.75	2.58	0.28	6.86	0.01	0	0	99.93	Cr-pyrope
KL-gar-63	purple	42.11	0.03	18.86	7.13	24.13	1.45	0.25	5.9	0	0	0	99.85	Cr-pyrope
KL-gar-64	purple	42.57	0.17	21.44	3.22	24.49	2.09	0.26	5.39	0.02	0.01	0	99.67	Cr-pyrope
KL-gar-65	purple	40.99	0.05	15.08	12.02	23	2.17	0.29	5.95	0.01	0	0	99.56	Cr-pyrope
KL-gar-66	purple	41.86	0.01	20.44	4.35	22.15	4.15	0.31	6.31	0.03	0.01	0	99.62	Cr-pyrope
KL-gar-67	purple	41.79	0.04	20.01	4.51	21.28	5.28	0.22	5.91	0	0.01	0.01	99.06	Cr-pyrope
KL-gar-68	purple	42.18	0.02	20.16	4.76	21.5	5.16	0.28	6.03	0	0	0	100.1	Cr-pyrope
KL-gar-69	purple	42.32	0.04	20.14	4.78	21.38	5.34	0.25	6.14	0	0	0	100.4	Cr-pyrope
KL-gar-70	purple	41.26	0	15.41	11.43	22.66	2.26	0.28	6.41	0.01	0	0	99.71	Cr-pyrope
KL-gar-71	purple	42.16	0.06	21.17	3.22	21.81	4.77	0.27	6.08	0.02	0.03	0	99.58	Cr-pyrope
KL-gar-72	purple	41.29	0.02	15.29	11.58	22.71	2.32	0.3	6.18	0.01	0	0	99.7	Cr-pyrope
KL-gar-73	purple	41.39	0.2	15.79	10.63	23.16	2.59	0.23	5.67	0.01	0	0	99.67	Cr-pyrope
KL-gar-74	purple	41.49	0.03	14.87	12.18	22.77	2.43	0.29	5.87	0.01	0.01	0.01	99.95	Cr-pyrope
KL-gar-75	purple	42.08	0.02	20.7	4.37	21.66	4.87	0.27	6.03	0.02	0.01	0	100.04	Cr-pyrope
KL-gar-76	purple	42	0.03	20.15	4.61	21.39	5.27	0.24	5.93	0.02	0.01	0	99.66	Cr-pyrope
KL-gar-77	purple	42.45	0.18	21.76	3.21	24.44	2.03	0.21	5.38	0.03	0.01	0.01	99.72	Cr-pyrope
KL-gar-78	purple	42.11	0.07	20.72	4.2	21.62	4.85	0.24	6.12	0.01	0.01	0.01	99.97	Cr-pyrope
KL-gar-79	purple	42.02	0.06	20.6	4.28	21.57	4.88	0.26	6.07	0	0.01	0	99.74	Cr-pyrope
KL-gar-80	purple	40.89	0.05	14.69	11.73	21.78	3.59	0.27	5.88	0.02	0.01	0	98.9	Cr-pyrope
KL-gar-81	purple	41.27	0.01	14.99	11.41	22.95	2.15	0.25	5.85	0.03	0	0	98.91	Cr-pyrope
KL-gar-82	purple	41.88	0	18.07	7.76	24.06	1.56	0.27	5.8	0.02	0.01	0.01	99.43	Cr-pyrope
KL-gar-83	purple	42.01	0.01	18.68	7.3	24.12	1.56	0.26	5.88	0.06	0	0	99.88	Cr-pyrope
KL-gar-84	purple	40.43	0.85	12.9	13.51	20.22	5.81	0.24	5.72	0.03	0.05	0	99.76	Cr-pyrope
KL-gar-86	purple	42.21	0.01	18.57	7.28	24.03	1.54	0.28	5.97	0	0.01	0	99.91	Cr-pyrope
KL-gar-87	purple	41.69	0.28	19.21	5.92	21.21	5.13	0.25	6.43	0.01	0.04	0	100.17	Cr-pyrope
KL-gar-88	purple	41.54	0.02	15.2	11.95	23.16	2.27	0.22	5.69	0	0	0	100.06	Cr-pyrope
KL-gar-89	purple	41.46	0.02	15.23	11.74	23.11	2.24	0.25	5.93	0.02	0.01	0	100	Cr-pyrope
KL-gar-90	purple	40.81	0.02	14.92	11.92	21.82	3.59	0.27	5.92	0.03	0	0	99.3	Cr-pyrope
KL-gar-91	purple	40.44	0.16	15.36	10.47	17.87	8.02	0.3	6.78	0	0.02	0	99.42	Cr-pyrope
KL-gar-92	purple	40.69	0.9	15.24	10.22	20.56	4.89	0.31	6.53	0	0.06	0	99.38	Cr-pyrope
KL-gar-93	purple	40.89	0.27	15.81	10.34	21.18	4.93	0.26	6.04	0.05	0	0	99.78	Cr-pyrope
KL-gar-94	purple	42.64	0.01	21.15	4.12	24.22	1.93	0.29	5.78	0.03	0.03	0	100.2	Cr-pyrope
KL-gar-95	purple	42.08	0.04	18.58	7.08	24.1	1.56	0.24	5.88	0.01	0.01	0	99.58	Cr-pyrope
KL-gar-96	purple	41.14	0.18	15.8	10.51	23.13	2.52	0.23	5.64	0	0	0	99.16	Cr-pyrope
KL-gar-97	purple	40.93	0.21	15.8	9.76	19.52	6.78	0.24	6.49	0.02	0.01	0	99.76	Cr-pyrope
KL-gar-98	purple	41.04	0.02	15.62	11.07	22.8	2.16	0.27	6.34	0	0	0	99.32	Cr-pyrope
KL-gar-99	purple	41.14	0.15	15.62	10.47	20.75	5.27	0.3	6.37	0.01	0.01	0	100.09	Cr-pyrope
KL-gar-100	purple	41.11	0.11	17.21	8.5	20.55	5.18	0.32	6.72	0	0	0	99.7	Cr-pyrope
KL-gar-101	purple	41.92	0.04	19.46	6.48	24.2	1.43	0.29	5.68	0.02	0.01	0	99.53	Cr-pyrope
KL-gar-102	purple	41.35	0.05	17.38	8.64	23.72	1.96	0.24	5.6	0.01	0	0	98.95	Cr-pyrope
KL-gar-103	purple	41.31	0.05	18.2	7.62	22.78	2.63	0.25	6.97	0	0.01	0	99.82	Cr-pyrope
KL-gar-104	purple	41.15	0.01	15.06	11.58	23.04	2.17	0.25	5.78	0.03	0.01	0	99.07	Cr-pyrope
KL-gar-105	purple	41.03	0.19	16.05	9.54	19.59	6.67	0.27	6.7	0.04	0.02	0	100.1	Cr-pyrope
KL-gar-106	purple	40.36	0.93	15.18	10.53	20.82	4.79	0.3	6.51	0.08	0.04	0.01	99.56	Cr-pyrope
KL-gar-107	purple	41.05	0.09	16.05	9.87	21.05	4.92	0.26	6.21	0.05	0	0	99.56	Cr-pyrope
KL-gar-108	purple	41.24	0.03	14.93	12.14	23.06	2.18	0.26	6.03	0.01	0	0	99.88	Cr-pyrope
KL-gar-109	purple	42.76	0.19	21.61	3.35	24.44	1.99	0.23	5.49	0.03	0.02	0	100.11	Cr-pyrope
KL-gar-110	purple	41.66	0.31	19.14	5.71	22.43	3.56	0.27	6.07	0	0.02	0	99.18	Cr-pyrope
KL-gar-111	purple	42.14	0.05	20.46	4.29	21.82	4.86	0.27	6.13	0.02	0.02	0.01	100.07	Cr-pyrope
KL-gar-112	purple	41.33	0.14	17.22	8.98	20.6	5.16	0.34	6.99	0	0.01	0	100.77	Cr-pyrope
KL-gar-113	purple	42.65	0.17	21.73	3.43	24.6	1.96	0.27	5.4	0	0.01	0	100.22	Cr-pyrope
KL-gar-114	purple	41.83	0.04	20.07	4.53	21.37	5.3	0.27	5.95	0	0.02	0	99.39	Cr-pyrope
KL-gar-115	purple	40.65	0.22	13.59	13.15	20.66	4.97	0.31	6.09	0	0.01	0	99.63	Cr-pyrope
KL-gar-116	purple	40.76	0.22	14.85	11.48	20.53	5.44	0.26	6.34	0.01	0.01	0	99.91	Cr-pyrope
KL-gar-117	purple	41.15	0.05	16.41	10.15	20.88	5.18	0.3	6.08	0.01	0.01	0	100.22	Cr-pyrope
KL-gar-118	purple	41.89	0.19	20.1	4.6	21.4	4.93	0.24	6.62	0	0.02	0	100	Cr-pyrope
KL-gar-119	purple	41.81	0.3	19.14	6.03	21.1	5.3	0.27	6.49	0.05	0.04	0.01	100.53	Cr-pyrope

Sample	colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO*	NiO	Na2O	K2O	Total	I.D.
KL-gar-120	purple	40.93	0.19	16.24	9.44	20.04	6.35	0.25	5.67	0	0.02	0	99.12	Cr-pyrope
KL-gar-121	purple	40.99	0.16	16.95	8.86	20.52	5.2	0.29	6.78	0.04	0.02	0	99.82	Cr-pyrope
KL-gar-122	purple	41.34	1.26	17.54	6.51	20.97	4.86	0.29	6.79	0.01	0.06	0	99.63	Cr-pyrope
KL-gar-123	purple	42.01	0.03	18.78	6.76	23.95	1.46	0.25	5.93	0.01	0.01	0	99.18	Cr-pyrope
KL-gar-124	purple	41.22	0.11	16.94	8.85	20.36	5.18	0.38	6.87	0.04	0	0	99.96	Cr-pyrope
KL-gar-125	purple	42.4	0.22	21.57	3.41	24.56	2.04	0.22	5.43	0.04	0.01	0	99.91	Cr-pyrope
KL-gar-126	purple	40.62	0.91	15.18	10.51	20.7	4.96	0.29	6.65	0	0.05	0	99.87	Cr-pyrope
KL-gar-127	purple	41.96	0.07	18.58	7.38	24.07	1.53	0.2	5.88	0	0	0.01	99.67	Cr-pyrope
KL-gar-128	purple	41.84	0.03	19.92	4.66	21.29	5.29	0.25	5.99	0.02	0.02	0	99.31	Cr-pyrope
KL-gar-129	purple	41.85	0.05	20.04	4.69	21.31	5.35	0.25	5.94	0	0.01	0	99.5	Cr-pyrope
KL-gar-130	purple	41.88	0.02	20.62	4.45	21.93	4.17	0.29	6.23	0.02	0.01	0	99.63	Cr-pyrope
KL-gar-131	purple	41.78	0.02	20.01	4.64	21.46	5.24	0.19	5.93	0.03	0.01	0	99.32	Cr-pyrope
KL-gar-132	purple	42.05	0.17	21.1	3.77	22.95	2.71	0.28	6.99	0	0.01	0	100.03	Cr-pyrope
KL-gar-133	purple	41.14	0.2	15.61	10.59	20.71	5.26	0.24	6.42	0.02	0.01	0.01	100.2	Cr-pyrope
KL-gar-134	purple	42.28	0.08	21.53	3.5	23.08	3.38	0.32	5.63	0.01	0.02	0.01	99.83	Cr-pyrope
KL-gar-135	purple	41.26	0.04	15.12	11.65	23.17	2.24	0.24	5.77	0	0.01	0	99.5	Cr-pyrope
KL-gar-136	purple	42.01	0.01	20.13	4.44	21.29	5.3	0.29	6.02	0	0	0.01	99.52	Cr-pyrope
KL-gar-137	purple	41.77	0.21	20.23	4.58	21.33	4.91	0.24	6.47	0	0.03	0	99.78	Cr-pyrope
KL-gar-138	purple	41.85	0.07	18.52	7.05	22.7	2.54	0.24	6.73	0.04	0	0	99.75	Cr-pyrope
KL-gar-140	purple	42.23	0.05	20.62	4.23	21.62	4.98	0.28	6.11	0.04	0.01	0	100.18	Cr-pyrope
KL-gar-141	purple	41.56	1.18	17.89	5.89	21.2	4.75	0.28	6.84	0.02	0.06	0.01	99.67	Cr-pyrope
KL-gar-142	purple	41.28	0.04	15.23	11.61	22.89	2.19	0.23	5.91	0	0	0	99.38	Cr-pyrope
KL-gar-143	purple	41.3	0.29	19.11	5.86	20.98	5.08	0.28	6.37	0.05	0.03	0	99.35	Cr-pyrope
KL-gar-144	purple	42.31	0.05	20.24	4.86	21.47	5.19	0.28	6.04	0	0.01	0	100.45	Cr-pyrope
KL-gar-145	purple	42.43	0.04	19.15	6.71	24.21	1.44	0.22	6.07	0.01	0.01	0	100.28	Cr-pyrope
KL-gar-146	purple	41.8	0.05	18.58	6.92	23.02	2.61	0.32	6.63	0.02	0	0	99.96	Cr-pyrope
KL-gar-147	purple	37.66	0	21.34	0	5.99	0.89	1.61	32.73	0	0.01	0	100.23	Almandine
KL-gar-148	purple	41.98	0.02	20.11	4.53	21.36	5.34	0.23	6.13	0.05	0.02	0.01	99.77	Cr-pyrope
KL-gar-149	purple	41.03	0.21	15.33	10.79	20.51	5.31	0.31	6.33	0.02	0.01	0	99.86	Cr-pyrope
KL-gar-150	purple	42.16	0.07	21.33	3.48	23.13	3.37	0.29	5.67	0	0.01	0	99.5	Cr-pyrope
KL-gar-151	purple	41.27	0.03	14.94	11.66	22.98	2.23	0.24	6.08	0.03	0.01	0	99.48	Cr-pyrope
KL-gar-152	purple	41.89	0.07	18.56	7	22.97	2.5	0.29	6.7	0	0	0	100	Cr-pyrope
KL-gar-153	purple	41.83	0.34	20.66	3.49	21.23	4.81	0.3	7	0.05	0.03	0	99.75	Cr-pyrope
KL-gar-154	purple	42.27	0.02	18.72	7.11	24.07	1.45	0.26	5.88	0.04	0	0	99.82	Cr-pyrope
KL-gar-155	purple	41.93	0.02	20.55	4.44	22.01	4.22	0.3	6.32	0.03	0	0	99.84	Cr-pyrope
KL-gar-156	purple	42.79	0.03	21.51	3.37	25.15	1.03	0.24	5.49	0	0.01	0	99.61	Cr-pyrope
KL-gar-157	purple	41.86	0.05	18.83	6.74	24.16	1.5	0.28	5.85	0.04	0.01	0	99.32	Cr-pyrope
KL-gar-159	purple	42.04	0.06	20.56	4	21.58	4.93	0.27	5.8	0.01	0.02	0	99.28	Cr-pyrope
KL-gar-160	purple	41.17	0.03	15.27	11.99	23.06	2.21	0.21	5.76	0	0	0.01	99.71	Cr-pyrope
KL-gar-161	purple	41.83	0.02	18.51	7.26	24.04	1.5	0.25	5.87	0	0.01	0	99.29	Cr-pyrope
KL-gar-162	purple	41.25	0.01	14.99	11.64	23.06	2.16	0.28	5.94	0	0	0	99.33	Cr-pyrope
KL-gar-163	purple	41.05	0.04	16.33	10.02	20.78	5.11	0.33	6.04	0	0.02	0	99.73	Cr-pyrope
KL-gar-164	purple	41.69	0.09	18.6	6.93	22.82	2.6	0.31	6.8	0.03	0	0	99.88	Cr-pyrope
KL-gar-165	purple	40.9	0.17	15.92	9.76	19.09	7	0.32	6.19	0.02	0.01	0	99.38	Cr-pyrope
KL-gar-166	purple	41.83	0.02	19.34	6.45	24.22	1.43	0.23	5.86	0.02	0.02	0	99.43	Cr-pyrope
KL-gar-167	purple	40.66	0.25	13.92	12.87	21.7	3.89	0.29	5.94	0	0.03	0	99.55	Cr-pyrope
KL-gar-168	purple	41.12	0.02	15.32	11.79	23.17	2.23	0.29	5.95	0.02	0.01	0	99.93	Cr-pyrope
KL-gar-169	purple	41.43	0.05	15.56	11.39	23.26	2.25	0.24	5.91	0.05	0.01	0	100.15	Cr-pyrope
KL-gar-170	purple	42.2	0.04	20.59	4.28	22.18	4.08	0.25	6.29	0.02	0.02	0	99.95	Cr-pyrope
KL-gar-171	purple	41.99	0.05	20.54	4.33	22.01	4.1	0.26	6.59	0.02	0.02	0	99.91	Cr-pyrope
KL-gar-172	purple	41.49	0.25	19.1	5.75	21.04	5.13	0.3	6.36	0.03	0.03	0	99.48	Cr-pyrope
KL-gar-173	purple	41.64	0.1	18.16	7.77	22.63	2.66	0.3	6.86	0	0	0	100.12	Cr-pyrope
KL-gar-174	purple	40.72	0.21	13.8	13.05	20.6	4.89	0.22	6.03	0	0.02	0	99.55	Cr-pyrope
KL-gar-175	purple	42.04	0.03	21.22	3.23	21.73	4.78	0.24	6.54	0.03	0.02	0	99.86	Cr-pyrope
KL-gar-176	purple	42.16	0.02	18.93	7.06	24.36	1.41	0.28	5.95	0.01	0.01	0	100.19	Cr-pyrope
KL-gar-177	purple	41.13	0	14.78	11.87	23.05	2.22	0.27	6.03	0	0	0	99.37	Cr-pyrope
KL-gar-178	purple	42.44	0.05	20.87	4.26	21.63	4.91	0.31	5.92	0	0.01	0	100.42	Cr-pyrope
KL-gar-179	purple	42.13	0.03	18.78	6.98	24.22	1.41	0.26	6.06	0	0.02	0	99.9	Cr-pyrope
KL-gar-180	purple	42.13	0.04	19.23	6.61	24.2	1.45	0.26	5.91	0	0.01	0.01	99.85	Cr-pyrope

Sample	colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO*	NiO	Na2O	K2O	Total	I.D.
KL-gar-181	purple	41.26	0.01	15.49	11.19	22.87	2.23	0.29	6.31	0.05	0	0	99.7	Cr-pyrope
KL-gar-182	purple	41.62	0.04	17.9	7.7	21.37	5	0.26	5.86	0	0	0	99.75	Cr-pyrope
KL-gar-183	purple	41.25	0.28	15.72	10.14	20.91	4.98	0.26	5.93	0.07	0.01	0	99.53	Cr-pyrope
KL-gar-184	purple	42.48	0.03	19.14	6.66	24.38	1.44	0.26	5.91	0.02	0.01	0	100.34	Cr-pyrope
KL-gar-185	purple	41.58	0.06	18.16	7.36	21.21	4.97	0.24	6.39	0.02	0.02	0	100.01	Cr-pyrope
KL-gar-186	purple	41.15	0.03	14.87	12.04	22.96	2.24	0.24	5.84	0	0	0	99.37	Cr-pyrope
KL-gar-187	purple	42.16	0.02	18.76	7.48	24.06	1.48	0.25	5.86	0	0	0	100.06	Cr-pyrope
KL-gar-188	purple	41.12	0.14	16.9	8.74	20.6	5.23	0.32	6.83	0	0	0	99.88	Cr-pyrope
KL-gar-189	purple	42.08	0	18.72	7.09	24.15	1.45	0.25	6.09	0.05	0.01	0.01	99.91	Cr-pyrope
KL-gar-190	purple	40.81	0.17	16.17	10.07	19.37	6.92	0.26	6.17	0	0	0	99.94	Cr-pyrope
KL-gar-191	purple	41.24	0.01	14.92	11.75	23.03	2.2	0.32	5.76	0.04	0.01	0	99.28	Cr-pyrope
KL-gar-192	purple	42.16	0.02	20.41	4.44	22.12	4.12	0.32	6.28	0.01	0.01	0	99.89	Cr-pyrope
KL-gar-193	purple	41.22	0.03	14.94	11.74	21.97	3.3	0.3	6.55	0.05	0.01	0.01	100.13	Cr-pyrope
KL-gar-194	purple	41.81	0.07	18.11	7.72	22.53	2.65	0.31	6.52	0.01	0.01	0	99.73	Cr-pyrope
KL-gar-195	purple	41.28	0.01	15.16	11.61	23.2	2.33	0.27	5.84	0.04	0.01	0	99.76	Cr-pyrope
KL-gar-196	purple	42.48	0.17	21.6	3.02	24.35	1.99	0.16	5.31	0	0.01	0	99.08	Cr-pyrope
KL-gar-197	purple	41.36	0.02	15.04	12	23.01	2.17	0.21	5.77	0.02	0.01	0	99.6	Cr-pyrope
KL-gar-198	purple	40.87	0.13	18.05	7.28	19.09	5.75	0.51	7.7	0	0.04	0	99.41	Cr-pyrope
KL-gar-199	purple	41.33	0.28	17.27	8.16	20.26	6.3	0.24	6.16	0	0.02	0	100.01	Cr-pyrope
KL-gar-200	purple	41.16	0.06	14.66	12.04	22.78	2.41	0.26	5.76	0	0	0	99.13	Cr-pyrope
KL-gar-201	purple	42.04	0.02	18.71	7.35	24.11	1.52	0.25	5.9	0	0	0	99.91	Cr-pyrope
KL-gar-202	purple	41.89	0.02	18.98	7.01	24.34	1.49	0.29	5.74	0.04	0.01	0	99.81	Cr-pyrope
KL-gar-203	purple	41.98	0.02	20.01	4.82	21.45	5.19	0.3	5.99	0	0.01	0.01	99.78	Cr-pyrope
KL-gar-204	purple	42.06	0.03	18.59	6.99	23.97	1.5	0.24	5.77	0	0.01	0.01	99.17	Cr-pyrope
KL-gar-205	purple	40.6	0.22	15.89	9.82	19.47	6.76	0.27	6.35	0	0.01	0	99.38	Cr-pyrope
KL-gar-206	purple	42.75	0.02	21.82	3.24	25.27	1.02	0.22	5.63	0	0	0	99.97	Cr-pyrope
KL-gar-207	purple	41.81	0.01	18.84	6.57	24.12	1.46	0.24	5.96	0	0.01	0.01	99.02	Cr-pyrope
KL-gar-208	purple	42.68	0.17	21.8	3.21	24.45	1.93	0.18	5.43	0	0.02	0	99.88	Cr-pyrope
KL-gar-209	purple	41.89	0.04	20.52	4.38	21.64	4.93	0.25	5.93	0.04	0.02	0	99.62	Cr-pyrope
KL-gar-210	purple	41.72	0	20.08	4.94	21.38	5.35	0.25	5.94	0	0.01	0	99.67	Cr-pyrope
KL-gar-211	purple	41.36	0.24	17.35	7.79	20.27	6.11	0.22	5.89	0.02	0.01	0	99.27	Cr-pyrope
KL-gar-212	purple	41.85	0.04	20.02	4.72	21.33	5.34	0.23	6.05	0	0.01	0	99.59	Cr-pyrope
KL-gar-213	purple	41.83	0.18	21.62	2.49	20.52	4.4	0.45	8.33	0.03	0.03	0	99.89	Cr-pyrope
KL-gar-214	purple	42.27	0.01	19.17	6.65	24.05	1.43	0.22	5.96	0.04	0	0	99.8	Cr-pyrope
KL-gar-215	purple	42.14	0.05	20.13	4.63	21.57	5.36	0.21	6.05	0.02	0.01	0	100.16	Cr-pyrope
KL-gar-216	purple	42.49	0.07	21.65	3.63	23.21	3.44	0.24	5.82	0	0.01	0	100.56	Cr-pyrope
KL-gar-217	purple	42.12	0.04	19.03	6.61	24.12	1.5	0.25	6.05	0	0	0	99.72	Cr-pyrope
KL-gar-218	purple	41.21	0.04	15.57	11.06	22.89	2.24	0.27	6.21	0.01	0	0	99.5	Cr-pyrope
KL-gar-219	purple	41.57	0.32	19.15	5.76	21.03	5.16	0.27	6.36	0.03	0.03	0	99.69	Cr-pyrope
KL-gar-221	purple	41.2	0.02	15.49	11.52	22.71	2.22	0.3	6.38	0.02	0	0	99.86	Cr-pyrope
KL-gar-222	purple	41.37	0.31	19.04	5.78	21.06	5.36	0.29	6.91	0.02	0.03	0	100.17	Cr-pyrope
KL-gar-224	purple	40.96	0.17	16.26	9.55	20.36	6.3	0.27	5.73	0.01	0.01	0.01	99.63	Cr-pyrope
KL-gar-225	purple	41.27	0	15.32	11.45	22.64	2.23	0.29	6.16	0	0	0	99.36	Cr-pyrope
KL-gar-226	purple	41.03	0	15.36	10.86	22.87	2.24	0.31	6.25	0	0.01	0	98.93	Cr-pyrope
KL-gar-227	purple	42.16	0.05	20.47	4.39	21.78	4.19	0.27	6.35	0.01	0.02	0	99.69	Cr-pyrope
KL-gar-228	purple	41.06	0.31	15.24	10.99	21.93	3.48	0.28	5.78	0.01	0.01	0.01	99.12	Cr-pyrope
KL-gar-229	orange	42.31	0.01	20.6	4.63	21.98	4.11	0.19	6.34	0.01	0.01	0	100.2	Cr-pyrope
KL-gar-231	orange	41.17	0.02	15.5	11.04	22.69	2.26	0.31	6.33	0.02	0	0	99.33	Cr-pyrope
KL-gar-232	orange	42.07	0.28	19.31	5.66	23.57	2.14	0.27	5.89	0.04	0.02	0	99.25	Cr-pyrope
KL-gar-233	orange	41.27	0.02	15.15	11.37	22.88	2.14	0.26	6.33	0	0.01	0	99.43	Cr-pyrope
KL-gar-234	orange	41.95	0.05	20.49	4.41	22.12	4.27	0.26	6.16	0	0.01	0	99.71	Cr-pyrope
KL-gar-235	orange	41.92	0.04	20.14	4.61	21.18	5.4	0.26	5.94	0.05	0.01	0	99.55	Cr-pyrope
KL-gar-236	orange	41.23	0.21	16.06	10.46	23.23	2.04	0.32	6.18	0	0.01	0	99.75	Cr-pyrope
KL-gar-237	orange	41.92	0.03	20.21	4.85	21.31	5.26	0.31	6.12	0.02	0.01	0	100.05	Cr-pyrope
KL-gar-238	orange	41.83	0	19.92	4.66	21.21	5.33	0.3	6.11	0.01	0.02	0	99.39	Cr-pyrope
KL-gar-239	orange	41.95	0.04	20.13	4.69	21.27	5.43	0.31	5.99	0.03	0.01	0	99.85	Cr-pyrope
KL-gar-240	orange	40.9	0.15	16.93	8.51	20.57	5.09	0.29	6.91	0.01	0.01	0	99.38	Cr-pyrope
KL-gar-241	orange	40.16	0.13	15.25	10.61	18.07	8.07	0.29	6.92	0	0.02	0	99.52	Cr-pyrope
KL-gar-242	orange	37.13	0.01	21.23	0.07	4.57	1.72	1.22	34.94	0	0.01	0	100.91	Almandine

Sample	colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO*	NiO	Na2O	K2O	Total	I.D.
KL-gar-243	orange	40.88	0.16	16.19	9.16	19.64	6.6	0.23	6.41	0.05	0	0	99.32	Cr-pyrope
KL-gar-244	orange	41.83	0.04	20.22	4.82	21.51	5.32	0.27	5.97	0	0.01	0	99.99	Cr-pyrope
KL-gar-245	orange	40.58	0.18	15.8	10.16	19.76	6.32	0.29	6.2	0.02	0.02	0	99.33	Cr-pyrope
KL-gar-246	orange	42.04	0.02	20.14	4.6	21.36	5.31	0.26	6.06	0.02	0.02	0	99.82	Cr-pyrope
KL-gar-247	orange	42.03	0.02	20.32	4.25	21.98	4.03	0.25	6.24	0.04	0.01	0	99.17	Cr-pyrope
KL-gar-248	orange	42.08	0.03	16.67	9.53	24.2	1.49	0.25	5.93	0.04	0.01	0	100.23	Cr-pyrope
KL-gar-251	orange	41.71	0.03	20.32	4.36	22.18	4.13	0.23	6.13	0.02	0.01	0	99.11	Cr-pyrope
KL-gar-252	orange	42.3	0.16	21.67	3.19	24.17	2.05	0.24	5.24	0	0.01	0	99.05	Cr-pyrope
KL-gar-253	orange	40.75	0.19	16.27	9.55	19.91	6.04	0.28	6.35	0.03	0.02	0	99.38	Cr-pyrope
KL-gar-254	orange	41.77	0.03	20.11	4.7	21.38	5.22	0.28	6.2	0.01	0.01	0	99.71	Cr-pyrope
KL-gar-255	orange	42.25	0.02	20.44	4.36	22.16	4.23	0.23	6.27	0	0.01	0.01	99.97	Cr-pyrope
KL-gar-256	orange	41.02	0.15	16.59	8.94	20.3	5.23	0.3	6.73	0	0.01	0	99.27	Cr-pyrope
KL-gar-257	orange	41.86	0.02	19.94	4.6	21.28	5.19	0.24	6.05	0	0	0	99.2	Cr-pyrope

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
KL-oxi-1	0.2	1.97	0	6.53	61.23	0.24	13.62	0.01	0.15	14.9	0.16	0.03	99.04	0.96	14.04	99.14
KL-oxi-2	0.29	1.38	0	15.69	45.41	0.33	13.51	0	0.28	22.11	0.25	0.08	99.32	7.53	15.33	100.08
KL-oxi-3	0.22	2.66	0	8.54	54.93	0.28	13.57	0.01	0.08	18.87	0.21	0.04	99.41	3.93	15.33	99.8
KL-oxi-4	0.25	0.27	0.06	7.59	63.24	0.19	13.48	0	0.2	13.71	0.12	0.07	99.18	0.85	12.95	99.27
KL-oxi-5	0.19	0.38	0.03	8.44	62.48	0.26	13.82	0	0.2	13.97	0.14	0.04	99.94	1.18	12.91	100.06
KL-oxi-6	0.28	0.1	0	14.4	51.05	0.21	13.66	0	0.23	18.98	0.17	0.05	99.12	5.98	13.6	99.72
KL-oxi-7	0.24	0.53	0.02	13.98	55.92	0.12	14.84	0	0.18	13.51	0.13	0.03	99.5	1.55	12.12	99.66
KL-oxi-8	0.21	1.23	0.01	7.09	61.34	0.12	13.63	0.01	0.12	15.45	0.11	0.04	99.35	2.2	13.47	99.57
KL-oxi-9	0.26	0.34	0.03	14.67	53.99	0.24	14.93	0	0.17	14.74	0.17	0.03	99.56	2.88	12.14	99.85
KL-oxi-10	0.04	0.59	0.02	7.44	54.26	0.23	8.32	0	0.33	27.96	0.15	0.18	99.52	7.91	20.84	100.31
KL-oxi-11	0.27	3.42	0	8.06	55.01	0.15	13.89	0.01	0.15	18.41	0.2	0.04	99.61	3.47	15.29	99.95
KL-oxi-12	0.08	1.2	0	9.41	60.2	0.25	12.78	0	0.22	15.55	0.11	0.08	99.88	0.45	15.15	99.92
KL-oxi-13	0.27	0.16	0	14.31	51.19	0.21	13.76	0.01	0.23	18.77	0.2	0.05	99.16	5.9	13.46	99.75
KL-oxi-14	0.07	2.6	0.06	8.06	57.26	0.24	12.11	0	0.25	19.38	0.12	0.06	100.19	2.25	17.35	100.42
KL-oxi-15	0.21	2.93	0.04	6.73	59.33	0.23	14.04	0.01	0.11	15.52	0.16	0.04	99.35	1.17	14.47	99.47
KL-oxi-16	0.32	7.29	0	12.9	32.06	0.32	12.38	0	0.28	33.34	0.29	0.01	99.18	12.58	22.02	100.44
KL-oxi-17	0.23	1.35	0.05	6.35	60.95	0.26	13.3	0	0.31	16.35	0.14	0.06	99.35	2.57	14.03	99.61
KL-oxi-18	0.22	0	0	7.52	62.71	0.31	12.98	0	0.3	15.39	0.11	0.09	99.63	1.98	13.61	99.83
KL-oxi-20	0.39	0.41	0	19.8	47.33	0.15	15.99	0	0.23	15.04	0.19	0.04	99.58	4.14	11.32	100
KL-oxi-21	0.05	0.08	0.06	10.31	56.01	0.34	11.01	0	0.32	21.32	0.11	0.14	99.74	4.76	17.03	100.22
KL-oxi-22	0.26	3.49	0.01	8.11	54.35	0.27	13.86	0.01	0.21	18.27	0.21	0.05	99.1	3.24	15.36	99.43
KL-oxi-23	0.2	4.58	0.03	8.92	50.26	0.24	12.69	0	0.27	21.91	0.2	0.06	99.35	4.12	18.2	99.76
KL-oxi-24	0.26	4.17	0	12.57	44.39	0.35	13.62	0	0.23	23.9	0.25	0.03	99.77	7.21	17.41	100.49
KL-oxi-25	0.24	0.08	0.02	8.06	62.32	0.27	13.46	0.01	0.08	15.2	0.09	0.03	99.85	2.06	13.34	100.06
KL-oxi-26	0.25	5.08	0.03	12.98	42.87	0.21	13.56	0	0.14	24.19	0.28	0.1	99.69	6.72	18.15	100.36
KL-oxi-27	0.3	0.88	0	12.05	54.16	0.28	14.22	0	0.19	16.77	0.21	0.03	99.09	3.98	13.19	99.49
KL-oxi-28	0.25	1.33	0.01	9.5	48.78	0.33	11.07	0	0.05	27.29	0.17	0.04	98.82	10.09	18.21	99.83
KL-oxi-29	0.19	1.65	0	6.44	60.56	0.23	12.84	0	0.12	16.74	0.13	0.08	98.98	2.03	14.92	99.19
KL-oxi-30	0.29	0.39	0.04	12.59	50.64	0.14	12.67	0	0.23	22.17	0.2	0.03	99.4	7.8	15.15	100.18
KL-oxi-31	0.24	1.17	0.01	9.48	53.25	0.36	12.34	0	0.1	21.33	0.16	0.02	98.46	5.94	15.98	99.05
KL-oxi-32	0.19	0.13	0	7.47	62.31	0.17	13.09	0	0.17	15.59	0.12	0.07	99.31	2.51	13.33	99.56
KL-oxi-33	0.2	4.68	0	7.8	54.67	0.18	14.77	0	0.19	16.93	0.29	0.06	99.77	2.26	14.9	100
KL-oxi-34	0.19	0.73	0.04	6.74	62.72	0.2	13.31	0	0.24	14.79	0.15	0.04	99.15	1.59	13.36	99.31
KL-oxi-35	0.25	2.86	0.07	17.84	46.9	0.12	17.08	0	0.09	13.7	0.22	0.02	99.15	2.58	11.38	99.41
KL-oxi-36	0.31	1.49	0.01	14.46	50.12	0.14	12.45	0.01	0.27	19.02	0.19	0.03	98.5	2.96	16.36	98.79
KL-oxi-37	0.26	4.27	0.02	8.67	50.74	0.29	12.52	0	0.16	21.99	0.19	0.04	99.14	4.04	18.36	99.55
KL-oxi-38	0.23	4.41	0.03	6.27	53.25	0.33	12.4	0	0.29	22.36	0.24	0.02	99.84	4.41	18.39	100.29
KL-oxi-39	0.38	3.18	0.02	16.91	38.76	0.34	13.39	0	0.21	25.91	0.27	0.05	99.41	9.24	17.59	100.34
KL-oxi-40	0.27	0.41	0	12.93	53.79	0.2	13.46	0	0.22	17.87	0.16	0.05	99.36	4.31	14	99.79
KL-oxi-41	0.35	0.15	0	17.57	46.92	0.22	14.58	0	0.22	18.59	0.22	0.03	98.85	6.46	12.78	99.5
KL-oxi-42	0.24	0.04	0	8.44	62.43	0.31	14.51	0	0.47	13.12	0.11	0.05	99.72	1.97	11.35	99.92
KL-oxi-43	0.24	1.07	0.03	9.16	52.55	0.23	11.5	0.01	0.23	23.84	0.18	0.01	99.05	7.64	16.97	99.82
KL-oxi-44	0.37	0.4	0.02	19.62	47.57	0.16	15.99	0	0.11	15.09	0.23	0.07	99.64	4.12	11.38	100.06
KL-oxi-45	0.18	0.56	0	11.1	58.62	0.19	14.12	0	0.2	13.8	0.13	0.05	99.04	1.32	12.61	99.17
KL-oxi-46	0.16	0.22	0.01	8.44	61.41	0.28	13.39	0	0.15	15.89	0.14	0.09	100.18	2.63	13.52	100.45
KL-oxi-47	0.21	0.36	0.05	7.46	59.82	0.24	12.46	0	0.22	18.36	0.16	0.05	99.42	4.11	14.67	99.83
KL-oxi-48	0.26	0.1	0.06	16.32	52.05	0.27	14.38	0	0.16	15.74	0.17	0.04	99.55	2.92	13.12	99.84
KL-oxi-49	0.34	0.23	0.01	16.31	46.91	0.1	13.49	0	0.26	21.98	0.22	0.06	99.91	8.4	14.42	100.75
KL-oxi-50	0.34	0.08	0	13.65	57.19	0.14	14.56	0	0.13	12.88	0.11	0.03	99.11	0.82	12.15	99.19
KL-oxi-51	0.28	2.21	0.01	10.7	51.87	0.13	13.67	0	0.18	20.29	0.24	0	99.57	5.91	14.97	100.17
KL-oxi-52	0.23	0.9	0	9.22	59.42	0.19	13.66	0	0.29	15.08	0.16	0	99.16	1.92	13.35	99.35
KL-oxi-53	0.26	1.08	0.01	6.22	61.76	0.3	12.84	0	0.45	16.33	0.13	0.04	99.43	2.1	14.44	99.64
KL-oxi-54	0.04	0.44	0.04	10.22	58.05	0.27	12.14	0	0.27	17.73	0.12	0.08	99.39	2.59	15.4	99.65
KL-oxi-55	0.24	0.23	0.01	6.83	63.95	0.16	13.56	0	0.02	14.09	0.12	0.02	99.23	1.44	12.8	99.38
KL-oxi-56	0.27	0.1	0	8.58	62.53	0.1	14.47	0	0.17	13.03	0.16	0.01	99.42	1.8	11.42	99.6
KL-oxi-57	0.32	0.88	0	14.77	49.68	0.26	14.08	0	0.23	19.33	0.26	0.1	99.9	5.96	13.96	100.5
KL-oxi-58	0.73	0.46	0	20.05	41.9	0.18	14.7	0.01	0.08	21.51	0.2	0.05	99.87	8.17	14.16	100.69
KL-oxi-59	0.26	0.02	0.03	7.73	62.9	0.22	13.24	0	0.19	15.02	0.14	0.05	99.79	1.83	13.37	99.98
KL-oxi-60	0.21	4.72	0.05	5.42	54.5	0.23	12.81	0.01	0.3	21.12	0.21	0.05	99.64	3.87	17.64	100.03

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
KL-oxi-61	0.26	0.77	0	12.73	53.86	0.19	13.5	0.01	0.26	17.88	0.18	0.07	99.72	4.07	14.22	100.13
KL-oxi-62	0.27	1.46	0	7.14	60.53	0.31	13.69	0	0.07	16.23	0.12	0.02	99.84	2.26	14.2	100.06
KL-oxi-63	0.24	2.1	0.05	10.77	51.76	0.26	13.51	0.01	0.37	20.34	0.22	0.04	99.68	5.8	15.12	100.26
KL-oxi-64	0.28	0.39	0.05	13.16	47.84	0.26	11.78	0.01	0.29	24.46	0.2	0.04	98.74	8.82	16.52	99.63
KL-oxi-65	0.2	5.44	0	5.87	51.22	0.32	12.13	0.02	0.28	23.8	0.24	0.09	99.61	4.84	19.45	100.1
KL-oxi-66	0.21	4.04	0.02	5.76	58.14	0.23	14.35	0	0.23	16.3	0.19	0.01	99.48	1.71	14.75	99.65
KL-oxi-67	0.23	0.08	0	8.01	62.77	0.25	13.51	0.01	0.13	14.69	0.1	0.03	99.81	1.71	13.16	99.98
KL-oxi-68	0.25	0.24	0.05	7.57	64.13	0.17	13.68	0	0	13.59	0.17	0.02	99.86	0.67	12.98	99.93
KL-oxi-69	0.06	0.73	0	8	54.83	0.21	9.36	0	0.3	25.37	0.11	0.14	99.12	6.67	19.37	99.79
KL-oxi-70	0.27	0.12	0.02	8.34	62.63	0.18	13.5	0	0.25	13.65	0.15	0.02	99.14	0.92	12.82	99.24
KL-oxi-71	0.31	0.32	0	19	40.95	0.21	13.72	0	0.11	24.19	0.21	0.03	99.06	10.61	14.64	100.12
KL-oxi-72	0.29	0.4	0	13.62	49.22	0.25	12.82	0	0.33	22.33	0.2	0.05	99.51	7.99	15.14	100.31
KL-oxi-73	0.3	0.3	0	13.27	49.02	0.17	12.74	0	0.31	22.97	0.21	0.04	99.34	8.88	14.98	100.23
KL-oxi-74	0.32	0.79	0	12.37	53.57	0.37	13.44	0.01	0.14	17.74	0.19	0.05	98.98	3.59	14.52	99.34
KL-oxi-75	0.05	0.31	0.04	10.31	59.07	0.28	12.24	0	0.21	16.59	0.09	0.07	99.25	1.53	15.21	99.41
KL-oxi-77	0.1	3.5	0	8	53.59	0.2	12.68	0	0.29	21.22	0.17	0.02	99.77	4.64	17.05	100.24
KL-oxi-78	0.28	0.3	0	8.76	61.27	0.25	14.48	0.01	0.07	13.89	0.15	0.04	99.5	2.18	11.93	99.72
KL-oxi-79	0.25	2.48	0.03	12.12	53.05	0.36	14.87	0	0.26	15.87	0.25	0.04	99.58	2.35	13.76	99.82
KL-oxi-80	0.23	0.46	0	7.42	62.39	0.3	13.43	0	0.16	15.45	0.15	0.04	100.03	2.09	13.57	100.24
KL-oxi-81	0.21	0.28	0.03	7.63	62.67	0.27	13.43	0	0.19	14.98	0.14	0.04	99.87	1.84	13.33	100.06
KL-oxi-82	0.25	0.32	0	16.47	53.32	0.14	15.19	0	0.06	13.17	0.15	0.06	99.13	1.58	11.75	99.29
KL-oxi-83	0.32	0.17	0	20.52	47.35	0.2	16.2	0	0.17	14.41	0.2	0.03	99.58	3.85	10.95	99.96
KL-oxi-84	0.21	1.18	0	6.32	62.41	0.19	13.23	0	0.06	15.69	0.17	0.05	99.5	1.8	14.07	99.68
KL-oxi-85	0.31	0.19	0	10.42	53.93	0.27	12.47	0	0.36	20.53	0.13	0.04	98.65	6.39	14.78	99.29
KL-oxi-86	0.21	0.23	0.02	7.58	62.66	0.29	13.42	0.01	0.16	14.65	0.11	0.05	99.4	1.61	13.21	99.56
KL-oxi-87	0.23	0.04	0	8.5	61.64	0.27	13.6	0	0.22	14.35	0.13	0.05	99.03	1.84	12.69	99.21
KL-oxi-89	0.01	0.04	0	26.04	44.42	0.27	14.33	0	0.2	13.98	0.06	0.18	99.53	0	13.98	99.53
KL-oxi-90	0.34	1.12	0	14.89	51.87	0.34	14.78	0	0.23	16.45	0.17	0.04	100.24	3.28	13.5	100.57
KL-oxi-91	0.04	0.49	0.05	10.87	56.96	0.29	11.74	0	0.27	18.33	0.12	0.1	99.24	2.43	16.14	99.49
KL-oxi-92	0.25	0.02	0	7.63	63.3	0.27	13.32	0	0.18	14.25	0.15	0.04	99.41	1.27	13.11	99.54
KL-oxi-93	0.19	1.93	0.01	6.61	61.73	0.29	13.72	0	0.25	14.44	0.16	0.02	99.35	0.56	13.94	99.41
KL-oxi-94	0.18	2.5	0	6.78	59.87	0.32	14.16	0	0.17	15.02	0.2	0.06	99.26	1.33	13.83	99.4
KL-oxi-95	0.37	0.26	0.01	16.65	42.54	0.23	12.89	0	0.27	25.37	0.2	0	98.78	11.08	15.4	99.89
KL-oxi-96	0.35	0.61	0.02	22.95	38.35	0.11	14.56	0	0.22	21.83	0.26	0.06	99.32	8.68	14.02	100.19
KL-oxi-97	0.22	0.14	0	7.01	64.08	0.24	13.14	0	0.17	14.55	0.09	0.03	99.67	1.16	13.5	99.79
KL-oxi-98	0.02	3.38	0.02	2.22	41.07	0.19	4	0	0.31	47.18	0.11	0.17	98.67	20.16	29.04	100.69
KL-oxi-99	0.21	0.63	0	7.32	62.78	0.3	13.75	0	0.04	15.04	0.15	0.06	100.29	1.83	13.39	100.48
KL-oxi-100	0.31	1.9	0	16.9	44.47	0.13	13.67	0	0.21	21.61	0.2	0.04	99.45	6.64	15.64	100.11
KL-oxi-101	0.28	0.54	0.03	12.92	53.7	0.2	13.95	0	0.21	17.55	0.19	0.03	99.61	4.51	13.49	100.06
KL-oxi-102	0.27	0.88	0.04	8.18	54.5	0.31	11.1	0.01	0.21	23.4	0.17	0.07	99.13	6.62	17.45	99.79
KL-oxi-103	0.25	4.67	0.06	11.15	50.07	0.25	15.69	0	0.19	17.06	0.24	0.04	99.65	3.07	14.29	99.96
KL-oxi-104	0.33	0.63	0	10.45	51.3	0.26	11.44	0	0.21	23.94	0.22	0.04	98.82	7.79	16.93	99.6
KL-oxi-105	0.21	0.07	0	7.97	61.29	0.27	12.94	0	0.22	15.84	0.14	0.05	98.99	2.48	13.61	99.24
KL-oxi-106	0.01	3.22	0.01	2.83	45.21	0.22	5.41	0	0.22	41.29	0.18	0.13	98.72	16.04	26.86	100.33
KL-oxi-107	0.24	1.75	0	17.57	47.82	0.27	15.72	0	0.13	16.22	0.21	0.07	100	3.84	12.77	100.39
KL-oxi-108	0.21	0.4	0	10.5	54.47	0.21	12.62	0.01	0.27	20.68	0.2	0.04	99.61	6.47	14.85	100.26
KL-oxi-109	0.23	0.32	0.01	7.59	62.56	0.17	13.43	0	0.12	14.64	0.1	0.05	99.22	1.71	13.11	99.39
KL-oxi-110	0.22	0.03	0.01	8.04	61.6	0.33	13.11	0	0.13	15.81	0.12	0.01	99.4	2.32	13.73	99.63
KL-oxi-111	0.18	0.62	0	11.09	58.4	0.32	14.16	0	0.14	13.92	0.16	0.07	99.07	1.23	12.81	99.19
KL-oxi-112	0.21	3.92	0	7.43	57.17	0.11	15.08	0.01	0.26	14.94	0.24	0.08	99.45	1.69	13.42	99.62
KL-oxi-113	0.24	0.32	0.04	16.43	52.95	0.24	15.43	0	0.14	13.04	0.16	0.06	99.07	1.77	11.45	99.24
KL-oxi-114	0	0.07	0.01	17.94	52.09	0.3	12.8	0	0.31	15.81	0.06	0.15	99.55	0.65	15.23	99.62
KL-oxi-115	0.03	0	0.03	27.07	42.89	0.26	14.54	0	0.24	13.49	0.09	0.18	98.83	0	13.49	98.83
KL-oxi-116	0.14	3.65	0	6.55	58.05	0.26	14.34	0	0.26	16.06	0.16	0.04	99.52	1.79	14.46	99.7
KL-oxi-117	0.29	0	0.02	7.41	63.63	0.25	13.63	0	0.21	13.7	0.11	0.03	99.27	1.21	12.61	99.39
KL-oxi-118	0.37	0.93	0.01	23.93	36.48	0.1	14.76	0	0.17	21.96	0.25	0.05	99.02	8.71	14.13	99.89
KL-oxi-119	0.09	3.54	0.01	7.71	54.24	0.25	11.87	0	0.36	21.36	0.18	0.05	99.66	3.51	18.2	100.01
KL-oxi-120	0.22	0.37	0.04	20.32	48.55	0.2	15.92	0.01	0.18	13.4	0.19	0.05	99.43	2.31	11.33	99.66
KL-oxi-121	0.25	0.14	0	7.79	62.76	0.21	13.34	0	0.14	14.37	0.11	0.06	99.18	1.38	13.12	99.32

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
KL-oxi-122	0.03	0.06	0	23.66	44.75	0.26	13.12	0	0.45	17.49	0.08	0.14	100.04	2.07	15.63	100.25
KL-oxi-123	0.31	1.3	0	13.67	44.88	0.28	11.57	0.01	0.17	26.61	0.15	0.03	98.99	9.53	18.03	99.95
KL-oxi-124	0.26	0.44	0	6.05	62.3	0.31	12.56	0.01	0.15	16.53	0.15	0.04	98.79	2.44	14.33	99.04
KL-oxi-125	0.3	0.53	0.02	9.13	53.58	0.19	11.28	0.01	0.31	23.44	0.2	0.05	99.03	7.5	16.69	99.79
KL-oxi-126	0.34	0.51	0.01	14.43	50.82	0.23	13.3	0.01	0.09	19.59	0.16	0.05	99.55	5.2	14.91	100.07
KL-oxi-127	0.25	0.08	0.02	7.63	63.63	0.23	13.3	0.01	0.18	14.33	0.11	0.08	99.87	1.13	13.31	99.98
KL-oxi-128	0.2	0.46	0	7.44	62.11	0.26	13.32	0	0.21	15.16	0.14	0.03	99.34	1.94	13.42	99.54
KL-oxi-129	0.01	0.06	0.04	23.84	44	0.27	11.98	0.01	0.08	19.02	0.11	0.18	99.6	1.59	17.59	99.76
KL-oxi-130	0.27	3.47	0.03	11.82	50.14	0.3	14.39	0	0.2	18.41	0.19	0.01	99.24	3.46	15.31	99.59
KL-oxi-131	0.22	2.89	0.03	8.53	56.89	0.28	14.51	0	0.24	15.61	0.17	0.05	99.41	1.82	13.97	99.59
KL-oxi-132	0.31	0.31	0	12.83	52.86	0.28	13.34	0	0.25	18.91	0.16	0.03	99.27	5.19	14.23	99.79
KL-oxi-133	0.17	2.38	0	6.54	60.39	0.36	13.23	0	0.14	16.04	0.2	0.06	99.51	0.86	15.27	99.6
KL-oxi-134	0.21	1.67	0	12.13	54.83	0.23	14.24	0	0.36	15.81	0.19	0.05	99.72	2.35	13.69	99.95
KL-oxi-135	0.2	0.36	0.01	16.5	53.1	0.21	15.46	0	0.15	13.05	0.16	0.06	99.27	1.86	11.38	99.46
KL-oxi-136	0.24	0.73	0.03	6.52	61.38	0.26	12.56	0	0.16	17.4	0.14	0.04	99.47	2.85	14.84	99.75
KL-oxi-137	0.17	0.27	0	11.17	59.24	0.22	13.79	0	0.32	14.22	0.15	0.06	99.61	1.42	12.94	99.75
KL-oxi-138	0.18	0.37	0	8.4	62.55	0.3	13.44	0	0.19	14.06	0.1	0.07	99.67	0.69	13.44	99.74
KL-oxi-139	0.27	1.98	0	9.15	52.56	0.16	11.95	0.02	0.27	22.3	0.19	0.09	98.92	6.07	16.83	99.53
KL-oxi-140	0.31	0.57	0	10.53	51.38	0.24	11.84	0.01	0.3	23.78	0.2	0.05	99.21	8.37	16.25	100.05
KL-oxi-141	0.21	0.3	0.02	7.61	63.13	0.17	13.8	0	0.21	13.46	0.12	0.06	99.08	1.27	12.32	99.21
KL-oxi-142	0.21	0.3	0	7.46	62.25	0.19	13.44	0	0.31	15.08	0.14	0.05	99.44	2.41	12.91	99.68
KL-oxi-143	0.16	0.12	0.05	8	63.57	0.2	13.73	0	0.24	13.42	0.13	0.03	99.64	1	12.52	99.74
KL-oxi-145	0.32	2.25	0	15.24	44.56	0.2	14.02	0	0.25	21.77	0.26	0.05	98.91	7.51	15.01	99.67
KL-oxi-146	0.22	0.39	0	16.5	53.31	0.19	15.41	0.01	0.22	12.86	0.16	0.02	99.28	1.58	11.44	99.44
KL-oxi-147	0	0.11	0.07	16.14	53.6	0.3	11.76	0.01	0.35	17.11	0.08	0.13	99.67	0.55	16.62	99.72
KL-oxi-149	0.32	0.23	0.07	12.51	52.29	0.25	12.2	0.01	0.24	21.09	0.18	0.04	99.41	5.76	15.91	99.99
KL-oxi-150	0.26	0.28	0	11.96	53.83	0.23	12.73	0	0.09	20.16	0.16	0.05	99.77	5.55	15.16	100.33
KL-oxi-151	0.25	1.14	0.04	13.47	52.7	0.27	14.37	0	0.27	16.29	0.18	0.06	99.03	3.34	13.28	99.36
KL-oxi-152	0.22	3.8	0.04	6.01	58.4	0.22	14.01	0.01	0.13	16.54	0.18	0.03	99.57	1.46	15.23	99.71
KL-oxi-153	0.24	1.17	0.03	6.32	62.18	0.15	13.22	0	0.28	15.53	0.15	0.07	99.35	1.9	13.83	99.54
KL-oxi-154	0.23	2.32	0	6.36	60.67	0.26	13.52	0.01	0.23	15.85	0.16	0.03	99.65	1.31	14.67	99.79
KL-oxi-155	0.22	0.72	0	7.65	61.06	0.24	13.4	0.02	0.21	15.49	0.09	0.06	99.16	2.24	13.48	99.39
KL-oxi-156	0.19	0.17	0	13.94	55.84	0.22	14.55	0	0.16	14.18	0.14	0.05	99.45	2.12	12.27	99.67
KL-oxi-157	0.38	0.42	0	21.69	38.91	0.15	13.8	0.01	0.21	23.37	0.24	0.06	99.24	9.42	14.89	100.18
KL-oxi-158	0.21	0.12	0	13.91	56.36	0.16	14.4	0	0.15	14	0.19	0.09	99.59	1.83	12.35	99.77
KL-oxi-159	0.22	0	0	8.41	61.77	0.27	13.67	0	0.09	14.4	0.1	0.03	98.97	1.91	12.67	99.16
KL-oxi-160	0.3	0.01	0	7.54	64.01	0.29	13.28	0	0.15	14.04	0.14	0.05	99.8	0.69	13.42	99.87

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
KL-oxi-144	0.01	55.01	0.53	0	0.27	0	8.3	0.01	5.29	30.07	0.01	0.04	99.54	0.24	29.86	99.56	66.697907	33.0523881	0.24970452	100

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total	
KL-pyx-1	53.51	0.61	0.51	0.04	15.37	23.71	0.08	4.92	0	0.89	0	99.63	Clinopyroxene
KL-pyx-2	53.23	0.78	0.72	0.02	15.32	24.28	0.1	4.64	0.06	0.69	0	99.85	Clinopyroxene
KL-pyx-3	53.37	0.92	0.55	0.05	15.26	24.01	0.11	4.91	0.03	0.88	0	100.1	Clinopyroxene
KL-pyx-4	53.42	0.05	0.81	0.19	14.22	23.72	0.24	6.87	0.04	0.52	0	100.08	Clinopyroxene
KL-pyx-5	53.39	0.9	0.59	0.03	15.31	23.69	0.11	4.99	0.04	0.89	0	99.96	Clinopyroxene
KL-pyx-6	53.69	0.6	0.41	0.02	15.64	24.15	0.12	4.53	0.02	0.7	0	99.86	Clinopyroxene
KL-pyx-7	54.12	0.62	0.32	0.02	15.94	24.53	0.11	4.16	0.04	0.51	0	100.36	Clinopyroxene
KL-pyx-8	53.02	0.92	0.87	0	15.5	24.31	0.09	4.58	0.01	0.59	0	99.89	Clinopyroxene
KL-pyx-9	54.19	0.65	0.32	0.01	15.56	24.18	0.13	4.62	0.02	0.63	0.01	100.32	Clinopyroxene
KL-pyx-10	53.43	0.05	0.87	0.03	14.18	23.93	0.32	6.59	0.06	0.49	0.01	99.96	Clinopyroxene
KL-pyx-12	53.83	0.46	0.26	0	15.93	24.37	0.08	4.4	0.01	0.57	0	99.91	Clinopyroxene
KL-pyx-13	53.82	0.5	0.36	0.08	16.09	24.81	0.05	3.63	0.02	0.58	0	99.93	Clinopyroxene
KL-pyx-14	53.18	0.08	1.01	0.23	14.08	23.94	0.24	6.51	0.01	0.58	0	99.86	Clinopyroxene
KL-pyx-15	52.91	0.07	1.39	0.12	13.83	23.64	0.35	6.72	0.04	0.62	0	99.7	Clinopyroxene
KL-pyx-16	52.3	0.05	0.97	0.05	12.07	23.87	0.36	9.54	0.01	0.45	0	99.66	Clinopyroxene
KL-pyx-17	53.33	0.8	0.56	0	15.39	23.77	0.12	4.97	0.06	0.85	0.01	99.86	Clinopyroxene
KL-pyx-18	53.52	0.75	0.65	0.05	15.67	24.35	0.08	4.72	0.02	0.64	0	100.45	Clinopyroxene
KL-pyx-19	52.93	1.14	0.9	0.08	15.94	24.6	0.1	3.99	0.03	0.44	0	100.15	Clinopyroxene
KL-pyx-20	53.81	0.53	0.36	0	15.64	24.44	0.12	4.77	0.06	0.59	0	100.3	Clinopyroxene
KL-pyx-21	53.21	0.78	0.67	0.11	15.68	24.12	0.11	4.55	0.01	0.78	0	100.03	Clinopyroxene
KL-pyx-22	52.96	1.16	0.89	0.29	15.46	23.9	0.06	4.46	0	0.75	0	99.94	Clinopyroxene
KL-pyx-23	53.52	0.7	0.32	0.13	15.27	23.72	0.15	5.16	0	0.81	0	99.78	Clinopyroxene
KL-pyx-24	53.52	0.71	0.63	0.06	15.29	24.35	0.1	4.96	0	0.76	0	100.38	Clinopyroxene
KL-pyx-25	53.81	0.06	0.89	0.09	14.11	23.96	0.29	6.66	0.04	0.53	0	100.44	Clinopyroxene
KL-pyx-27	53.34	0.07	0.9	0.08	14.02	23.97	0.27	6.7	0.03	0.54	0	99.9	Clinopyroxene
KL-pyx-28	53.48	0.07	0.9	0.1	14.18	24.21	0.26	6.27	0.04	0.48	0	100	Clinopyroxene
KL-pyx-29	53.84	0.51	0.19	0.09	15.61	24.25	0.14	4.43	0	0.6	0	99.67	Clinopyroxene
KL-pyx-30	53.76	0.04	0.29	0.09	14.29	24.59	0.32	6.45	0.07	0.33	0	100.21	Clinopyroxene
KL-pyx-31	53.49	1.07	0.39	0.03	15.6	23.02	0.08	4.54	0.03	1.4	0	99.63	Clinopyroxene
KL-pyx-32	53.46	0.76	0.43	0.06	15.38	24.04	0.08	4.96	0	0.81	0.01	99.98	Clinopyroxene
KL-pyx-33	53.38	0.77	0.65	0	15.47	23.91	0.13	4.44	0.01	0.8	0	99.55	Clinopyroxene
KL-pyx-34	53.48	0.04	0.85	0.06	14.26	23.84	0.28	6.66	0.03	0.52	0	100.02	Clinopyroxene
KL-pyx-35	53.34	0.19	0.13	0.01	14.19	23.97	0.4	6.45	0	0.79	0.01	99.49	Clinopyroxene
KL-pyx-36	53.81	0.49	0.26	0.02	15.55	24.37	0.11	4.67	0.06	0.65	0	100.02	Clinopyroxene
KL-pyx-37	53.22	0.71	0.6	0	15.49	24.27	0.1	4.44	0.02	0.69	0	99.53	Clinopyroxene
KL-pyx-38	53.47	0.62	0.55	0.05	15.28	24.39	0.09	4.79	0	0.73	0.01	100	Clinopyroxene
KL-pyx-39	53.54	0.41	0.26	0.03	14.57	24.09	0.12	5.8	0.07	0.7	0	99.58	Clinopyroxene
KL-pyx-41	53.68	0.77	0.18	0.06	15.29	22.48	0.1	5.45	0.03	1.23	0	99.28	Clinopyroxene
KL-pyx-42	53.52	0.09	0.85	0.06	14.34	24.07	0.29	6.7	0.07	0.5	0	100.5	Clinopyroxene
KL-pyx-43	53.16	0.03	0.93	0.1	14.24	23.79	0.27	6.8	0.02	0.52	0	99.85	Clinopyroxene
KL-pyx-44	53.44	0.85	0.43	0.09	15.61	24.24	0.13	4.21	0.03	0.62	0	99.64	Clinopyroxene
KL-pyx-45	53.28	0.05	0.87	0.12	14.03	23.52	0.25	6.69	0.04	0.58	0.02	99.44	Clinopyroxene
KL-pyx-46	53.37	0.06	1.01	0.1	14.11	23.88	0.31	6.92	0.03	0.51	0	100.31	Clinopyroxene
KL-pyx-47	53.18	0.74	0.52	0.02	15.31	24.2	0.1	4.71	0.05	0.68	0	99.51	Clinopyroxene
KL-pyx-48	53.51	0.54	0.45	0.01	14.6	23.58	0.12	5.77	0.02	1.03	0	99.62	Clinopyroxene
KL-pyx-50	54.03	0.61	0.32	0.03	15.98	24.5	0.11	4.25	0.05	0.5	0	100.38	Clinopyroxene
KL-pyx-51	52.96	0.97	0.85	0.06	15.07	23.8	0.08	5.15	0	0.87	0.01	99.83	Clinopyroxene
KL-pyx-52	54.03	0.56	0.35	0.01	15.7	24.34	0.13	4.45	0.05	0.59	0.01	100.2	Clinopyroxene
KL-pyx-53	53.44	0.72	0.48	0.04	15.62	24.31	0.1	4.52	0	0.71	0	99.94	Clinopyroxene
KL-pyx-54	53.21	0.82	0.57	0.04	15.72	24.45	0.12	4.26	0.04	0.64	0	99.89	Clinopyroxene
KL-pyx-55	53.13	0.9	0.5	0.15	15.57	24.35	0.08	4.55	0.03	0.69	0	99.96	Clinopyroxene
KL-pyx-56	52.95	0.8	0.47	0.22	15.49	23.97	0.11	4.72	0.09	0.61	0	99.44	Clinopyroxene
KL-pyx-57	53.3	0.09	1.1	0.09	13.96	23.91	0.25	6.62	0.07	0.57	0.01	99.96	Clinopyroxene
KL-pyx-58	53.55	0.59	0.36	0.01	15.38	24.18	0.23	5.12	0.01	0.66	0	100.09	Clinopyroxene
KL-pyx-60	53.87	0.3	0.19	0	15.58	25.33	0.11	4.06	0	0.45	0	99.9	Clinopyroxene
KL-pyx-61	53.39	0.05	0.91	0.15	14.1	24.24	0.31	6.48	0.06	0.51	0	100.2	Clinopyroxene
KL-pyx-62	53.56	0.72	0.56	0.06	15.47	24.29	0.1	4.55	0.03	0.7	0	100.05	Clinopyroxene
KL-pyx-64	53.94	0.49	0.18	0.03	15.15	23.81	0.11	5.24	0.01	0.84	0	99.79	Clinopyroxene
KL-pyx-65	53.37	0.04	0.95	0.18	14.21	23.68	0.3	6.54	0.03	0.52	0.01	99.82	Clinopyroxene

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total	
KL-pyx-66	53.64	0.03	0.95	0.14	14.24	23.6	0.26	6.73	0.04	0.56	0	100.19	Clinopyroxene
KL-pyx-67	53.35	0.7	0.49	0.05	15.67	24.34	0.08	4.18	0.03	0.62	0	99.52	Clinopyroxene
KL-pyx-68	53.88	0.51	0.31	0	15.19	24	0.12	5.24	0	0.79	0.01	100.06	Clinopyroxene
KL-pyx-69	53.24	0.07	0.91	0.12	14.01	23.93	0.3	6.79	0.05	0.54	0	99.95	Clinopyroxene
KL-pyx-70	53.61	0.07	1.17	0.11	14.03	23.98	0.24	6.96	0.06	0.59	0	100.82	Clinopyroxene
KL-pyx-71	54.28	0.27	0.48	0.13	14.83	22.49	0.16	6.5	0.07	1.24	0.01	100.45	Clinopyroxene
KL-pyx-72	54.31	0.09	0.07	0	15.96	24.91	0.09	4	0	0.48	0	99.91	Clinopyroxene
KL-pyx-73	53.36	0.07	0.87	0.15	14.23	23.91	0.26	6.68	0.02	0.52	0	100.08	Clinopyroxene
KL-pyx-75	52.25	0.97	0.86	0	13.82	23.47	0.21	6.84	0	0.92	0	99.33	Clinopyroxene
KL-pyx-76	53.32	0.76	0.4	0.04	15.8	24.4	0.05	4.26	0.03	0.52	0	99.58	Clinopyroxene
KL-pyx-77	52.53	1.02	0.9	0.11	15.44	23.85	0.06	4.58	0.03	0.83	0.02	99.37	Clinopyroxene
KL-pyx-78	53.48	0.76	0.24	0.03	15.99	24.69	0.06	4.15	0.04	0.48	0	99.91	Clinopyroxene
KL-pyx-79	52.99	0.77	0.51	0.04	14.87	23.77	0.13	4.81	0.01	0.82	0	98.72	Clinopyroxene
KL-pyx-80	53.08	0.06	1.09	0.1	13.84	23.96	0.34	7.19	0	0.53	0	100.19	Clinopyroxene
KL-pyx-81	53.75	0.58	0.41	0.12	15.66	24.26	0.09	4.56	0.06	0.67	0	100.15	Clinopyroxene
KL-pyx-83	54.11	0.24	3.04	2.19	15.91	19.72	0.09	2.23	0.06	2.25	0.01	99.85	Clinopyroxene
KL-pyx-84	54.49	0.02	2.09	2.55	16.53	19.51	0.07	2.18	0.08	1.97	0.02	99.49	Clinopyroxene
KL-pyx-85	54.45	0.01	2.09	2.76	16.53	19.45	0.08	2.16	0.02	1.94	0.01	99.5	Clinopyroxene
KL-pyx-86	54.45	0.27	2.63	1.84	16.11	20.83	0.05	1.76	0.03	1.84	0	99.81	Clinopyroxene
KL-pyx-87	55.18	0.17	1.7	1.18	19.95	17.59	0.09	2.97	0.1	1.17	0.04	100.13	Clinopyroxene
KL-pyx-88	54.91	0.01	2	2.57	16.74	19.43	0.09	2.24	0.04	1.95	0.01	99.98	Clinopyroxene
KL-pyx-89	54.68	0.28	1.97	1.49	18.75	17.46	0.1	3.18	0.09	1.5	0.02	99.5	Clinopyroxene
KL-pyx-90	54.25	0.03	1.87	1.05	17.06	23.38	0.04	1.27	0.06	0.89	0	99.89	Clinopyroxene
KL-pyx-91	54.59	0	2.05	2.79	16.58	19.47	0.06	2.24	0.08	1.98	0.01	99.86	Clinopyroxene
KL-pyx-92	55.19	0.38	2.67	1.93	18.39	16.08	0.08	2.74	0.09	2.1	0.06	99.69	Clinopyroxene
KL-pyx-93	53.81	0.06	1.89	1.81	15.22	20.98	0.1	4.12	0.03	1.78	0.01	99.8	Clinopyroxene
KL-pyx-94	54.89	0.46	2.19	1.24	19.08	16.94	0.09	3.7	0.06	1.62	0.02	100.3	Clinopyroxene
KL-pyx-95	54.97	0.31	2.09	1.43	20.09	16.45	0.14	2.75	0.07	1.51	0.04	99.86	Clinopyroxene
KL-pyx-96	54.68	0	2.04	2.71	16.65	19.5	0.06	2.25	0.05	1.96	0.01	99.91	Clinopyroxene
KL-pyx-97	55.03	0.27	1.72	1.73	19.05	17.9	0.11	2.74	0.09	1.45	0.02	100.1	Clinopyroxene
KL-pyx-98	54.44	0.54	2.02	2.23	17.85	16.81	0.1	3.47	0.05	1.94	0.03	99.48	Clinopyroxene
KL-pyx-99	54.82	0	2.09	2.57	16.75	19.58	0.03	2.28	0.06	1.97	0.01	100.17	Clinopyroxene
KL-pyx-100	55.13	0.31	2.3	1.31	18.38	17.73	0.07	3.04	0.03	1.79	0.03	100.11	Clinopyroxene
KL-pyx-101	55.38	0.08	1.46	1.49	19.98	17.38	0.11	2.85	0.08	1.11	0.04	99.95	Clinopyroxene
KL-pyx-102	54.58	0.44	1.86	2.54	18.18	17.15	0.11	3.18	0.06	1.96	0.03	100.09	Clinopyroxene
KL-pyx-103	54.45	0	2.11	2.04	17	19.82	0.05	2.27	0.01	1.89	0.02	99.64	Clinopyroxene
KL-pyx-104	54.94	0.05	1.22	1.56	19.04	19.08	0.14	2.45	0.1	1.02	0.11	99.71	Clinopyroxene
KL-pyx-105	53.91	0.03	1.51	1.44	16.76	22.14	0.07	3.03	0.07	0.78	0.04	99.79	Clinopyroxene
KL-pyx-106	54.79	0	2.18	2.42	16.5	19.52	0.06	2.23	0	1.94	0.01	99.65	Clinopyroxene
KL-pyx-107	54.56	0.01	2.22	2.28	16.69	19.48	0.1	2.22	0.05	1.97	0.02	99.59	Clinopyroxene
KL-pyx-108	55.13	0.01	1.72	1.06	19.41	19.14	0.09	2.44	0.12	1.19	0.03	100.33	Clinopyroxene
KL-pyx-109	54.81	0	2.1	2.24	17.03	19.91	0.08	2.36	0.03	1.88	0.01	100.46	Clinopyroxene
KL-pyx-110	54.7	0.04	2.21	2.55	16.78	19.57	0.05	2.08	0.04	1.98	0	100	Clinopyroxene
KL-pyx-111	54.92	0.17	1.51	1.16	19.57	17.93	0.07	2.97	0.05	1.2	0.02	99.55	Clinopyroxene
KL-pyx-112	55.1	0.23	2.29	2.1	18.37	16.43	0.13	3.15	0.07	2.04	0.03	99.94	Clinopyroxene
KL-pyx-113	55.17	0.39	2.32	1.68	19.43	15.62	0.12	3.38	0.08	1.83	0.02	100.03	Clinopyroxene
KL-pyx-114	54.69	0	2.02	2.6	16.57	19.56	0.06	2.08	0.08	2.04	0	99.71	Clinopyroxene
KL-pyx-115	54.87	0.19	2.17	2.07	18.43	16.53	0.1	3.22	0.06	1.96	0.02	99.64	Clinopyroxene
KL-pyx-116	54.84	0	2.17	2.33	16.79	19.73	0.08	2.09	0.05	1.93	0.01	100.02	Clinopyroxene
KL-pyx-117	54.6	0.01	2.09	2.18	16.94	19.96	0	2.16	0.06	1.86	0.02	99.89	Clinopyroxene
KL-pyx-118	54.26	0.52	5.21	2.17	14.44	19.39	0.06	1.69	0.03	2.95	0.01	100.75	Clinopyroxene
KL-pyx-119	54.71	0	2.22	2.78	16.45	19.44	0.09	2.11	0.05	2.01	0.02	99.87	Clinopyroxene
KL-pyx-120	55.09	0.04	1.41	1.36	20.1	17.61	0.11	3.03	0.08	1.1	0.04	99.97	Clinopyroxene
KL-pyx-121	54.73	0.42	2.89	1.51	17.17	18	0.07	2.95	0.06	2.16	0.09	100.04	Clinopyroxene
KL-pyx-122	54.26	0.54	2	2.34	18.01	16.85	0.07	3.45	0.07	1.93	0.02	99.52	Clinopyroxene
KL-pyx-123	54.39	0.12	2.55	2.93	15.89	19.09	0.04	2.22	0.07	2.48	0.02	99.81	Clinopyroxene
KL-pyx-124	54.52	0.33	2.06	2.36	15.83	19.35	0.07	2.81	0.01	2.2	0	99.54	Clinopyroxene
KL-pyx-125	55.4	0.01	1.46	1.38	20.11	17.64	0.08	2.97	0.06	1.05	0.03	100.19	Clinopyroxene
KL-pyx-126	54.5	0.05	1.89	1.05	17.11	23.41	0.03	1.36	0.03	0.85	0	100.27	Clinopyroxene

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total	
KL-pyx-127	54.55	0.29	1.95	1.31	18.92	17.45	0.11	3.21	0.11	1.46	0.04	99.4	Clinopyroxene
KL-pyx-128	54.44	0.12	3.17	2.39	15.53	19.14	0.1	2.06	0.05	2.55	0	99.55	Clinopyroxene
KL-pyx-129	54.92	0	2.15	2.15	16.76	19.55	0.11	2.26	0.05	1.88	0.01	99.83	Clinopyroxene
KL-pyx-130	54.61	0.03	2.09	2.2	16.8	19.5	0.07	2.13	0.03	1.87	0.01	99.33	Clinopyroxene
KL-pyx-131	54.88	0.08	1.51	0.97	19.41	18.58	0.12	2.84	0.06	1.05	0.03	99.52	Clinopyroxene
KL-pyx-132	54.9	0.04	2.25	2.26	17.06	19.62	0.04	2.19	0.06	1.88	0.01	100.32	Clinopyroxene
KL-pyx-133	54.45	0	2.09	2.49	16.74	19.52	0.09	2.19	0.02	1.98	0.01	99.58	Clinopyroxene
KL-pyx-134	55.17	0.37	2.59	1.87	18.57	16.15	0.09	2.8	0.06	2.14	0.05	99.86	Clinopyroxene
KL-pyx-135	54.4	0.35	2.2	3.27	16.26	18.72	0.09	2.19	0.08	2.3	0.01	99.86	Clinopyroxene
KL-pyx-136	54.8	0.25	2.28	2.07	18.42	16.39	0.07	3.18	0.1	1.95	0.03	99.53	Clinopyroxene
KL-pyx-137	54.66	0.15	2.02	1.2	18.16	18.86	0.08	3.24	0.1	1.53	0.06	100.07	Clinopyroxene

Kyle Lake No. 1 Olivine

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
KL-oli-1	41.05	0	0	0.05	50.43	0	0.11	7.99	0.37	0	0	99.99
KL-oli-2	41.22	0.01	0	0.1	51.02	0.01	0.12	7.02	0.43	0.02	0.04	99.99
KL-oli-3	41.01	0.03	0	0.13	50.85	0.03	0.11	7.25	0.36	0.01	0	99.77
KL-oli-4	41.03	0.05	0	0.04	50.67	0.08	0.11	7.8	0.38	0.02	0.05	100.24
KL-oli-5	41.3	0.01	0	0.26	50.77	0	0.09	7.48	0.39	0.01	0	100.31
KL-oli-6	41.24	0.01	0	0.16	50.61	0.06	0.09	7.33	0.37	0.02	0	99.89
KL-oli-7	41.28	0	0	0.05	50.89	0.06	0.13	7.66	0.42	0.01	0.02	100.52
KL-oli-8	41.16	0.04	0	0.11	50.93	0.07	0.1	6.98	0.34	0.01	0	99.74
KL-oli-9	41	0.07	0	0.04	49.63	0.05	0.14	9.01	0.39	0.02	0	100.35
KL-oli-10	41.44	0.02	0	0.06	51.32	0.05	0.12	6.82	0.36	0.01	0	100.18
KL-oli-11	41.37	0	0	0.03	50.39	0.09	0.09	7.99	0.38	0	0	100.34
KL-oli-12	41.23	0.01	0	0.06	50.66	0.04	0.1	7.62	0.46	0	0	100.17
KL-oli-13	41.3	0.01	0	0.4	50.96	0	0.09	6.82	0.42	0.01	0	100.03
KL-oli-14	40.96	0.05	0	0.06	49.59	0.05	0.08	8.96	0.37	0.01	0	100.13
KL-oli-15	41.28	0	0	0.08	50.49	0.04	0.1	7.91	0.39	0.02	0	100.31
KL-oli-16	41.23	0	0	0.05	50.37	0.02	0.08	7.77	0.3	0	0	99.82
KL-oli-17	41.28	0.04	0	0.08	50.83	0.04	0.06	7.61	0.36	0	0	100.3
KL-oli-18	41.21	0.01	0	0.12	51.14	0.03	0.13	7.03	0.36	0.01	0	100.04
KL-oli-19	41.18	0.01	0	0.03	50.74	0.01	0.1	7.35	0.38	0.01	0	99.81
KL-oli-20	41.48	0	0	0.07	50.59	0.02	0.1	7.77	0.4	0	0	100.44
KL-oli-21	41.45	0.01	0	0.09	50.83	0.05	0.1	7.67	0.39	0.01	0.04	100.65
KL-oli-22	41.09	0.04	0	0.05	50.34	0.06	0.08	8.12	0.36	0	0	100.14
KL-oli-23	41.18	0	0	0.12	50.59	0.06	0.09	7.23	0.38	0.01	0	99.66
KL-oli-24	41.69	0	0	0.16	50.77	0.02	0.1	7.57	0.39	0.01	0	100.72
KL-oli-25	41.35	0.01	0	0.07	51.02	0.01	0.14	7.19	0.38	0	0	100.17

Kyle Lake No. 1 Amphibole

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total	
KL-pyx-11	48.85	0.64	7.13	0.04	15.1	12.19	0.21	10.77	0.03	2.11	0.59	97.64	Amphibole
KL-pyx-40	53.3	0.11	3.31	0.26	17.46	12.32	0.33	9.69	0.14	0.51	0.16	97.59	Amphibole
KL-pyx-74	53.34	0.09	3.07	0.17	17.61	12.25	0.32	9.31	0.15	0.51	0.18	97	Amphibole

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	Fe2O3	NiO	Na2O	K2O	ZrO2	Y2O3	V2O5	Total
KL-gar-and-1	34.09	4.62	2.66	0	0.8	33.69	0.11	23.02	0	0.05	0	0.16	0	0.17	99.38
KL-gar-and-2	31.13	10.59	1.02	0	0.76	32.9	0.17	21.69	0	0.17	0	0.55	0	0.21	99.18
KL-gar-and-3	30.02	11.75	0.37	0	1.16	32.52	0.18	20.92	0.05	0.29	0	1.98	0	0.19	99.45
KL-gar-and-4	33.03	7.27	2.17	0.11	0.95	33.52	0.18	21.62	0.03	0.06	0	0.23	0.06	0.12	99.32
KL-gar-and-5	34.42	3.37	2	0.02	0.78	33.52	0.08	24.54	0.02	0.1	0	0.14	0.01	0.32	99.33
KL-gar-and-6	32.94	6.45	0.78	0.08	1.04	33.28	0.09	23.87	0	0.11	0	0.28	0	0.31	99.21
KL-gar-and-8	33.21	6.44	1.75	0.02	0.58	33.19	0.19	23.84	0	0.13	0	0.08	0.13	0.19	99.76
KL-gar-and-9	27.96	16.05	0.05	0.05	1	30.38	0.29	16.76	0	1.14	0	5.56	0	0.38	99.62
KL-gar-and-9-inclusion	34.72	1.02	0.1	0.12	0.66	33.25	0.06	24.28	0	0.05	0	0.02	0.04	5.77	100.09
KL-gar-and-10	30.55	13.98	0.48	0.07	0.76	32.92	0.08	19.71	0.02	0.31	0.01	0.31	0	0.15	99.34
KL-gar-and-11	31.69	10.55	0.72	0.01	0.87	33.36	0.11	21.29	0	0.21	0	0.5	0.02	0.28	99.62
KL-gar-and-12	33.26	6.72	2.61	0.01	0.92	33.69	0.18	21.81	0	0.05	0	0.12	0.11	0.12	99.59
KL-gar-and-13	34.15	3.07	1.22	0	1.09	33.16	0.19	25.62	0.01	0.16	0	0	0	0.1	98.77
KL-gar-and-14	34.84	2.48	2.2	0.01	0.72	33.46	0.05	25.38	0	0.11	0	0.07	0.27	0.36	99.96
KL-gar-and-15	31.62	8.98	0.39	0	0.79	32.7	0.13	22.87	0	0.3	0	0.98	0	0.41	99.18
KL-gar-and-15d	32.04	9.02	0.43	0	1.07	32.51	0.13	22.93	0.09	0.27	0	0.66	0	0.45	99.6
KL-gar-and-17	36.11	1.32	6.05	0	0.65	34.26	0.14	20.9	0.01	0	0.01	0.12	0.16	0.13	99.86
KL-gar-and-18	32.17	9.26	0.88	0.04	0.86	33.45	0.12	22.27	0	0.22	0	0.25	0.05	0.24	99.82
KL-gar-and-19	30.37	13.37	1.16	0	1.13	33.19	0.26	18.85	0.02	0.15	0	0.77	0.03	0.02	99.33
KL-gar-and-20	30.52	12.51	0.74	0.03	0.83	32.76	0.19	20.41	0	0.22	0	0.16	0	0.16	98.54
KL-gar-and-21	34.78	2.31	1.81	0.17	0.92	33.3	0.07	24.43	0	0.06	0	1.11	0	0.26	99.21
KL-gar-and-22	30.54	13.33	1.03	0.05	0.93	33.2	0.23	19.19	0	0.15	0	0.58	0.11	0.09	99.43
KL-gar-and-24	28.13	19.92	0.14	0.01	1.22	32.21	0.45	16.07	0.05	0.42	0	0.43	0.12	0.15	99.32
KL-gar-and-25	33.89	4.23	1.79	0.04	0.74	33.44	0.06	24.32	0.01	0.15	0	0.19	0.16	0.43	99.44
KL-gar-and-27	30.25	14.27	0.48	0	0.88	33.01	0.14	19.47	0	0.29	0	0.19	0	0.06	99.03
KL-gar-and-28	33.94	4.94	1.57	0.06	0.81	33.54	0.07	23.86	0	0.13	0	0.19	0.05	0.39	99.54
KL-gar-and-29	30.25	14.01	0.88	0.08	1.02	33.13	0.23	19.32	0	0.2	0	0.56	0	0	99.68
KL-gar-and-30	30.37	13.07	0.83	0.03	0.9	33.11	0.15	19.63	0	0.19	0	0.56	0	0.14	98.98
KL-gar-and-31	33.65	5.36	1.1	0.04	0.78	33.04	0.09	24.62	0	0.14	0	0.26	0.1	0.39	99.57
KL-gar-and-32	30.53	13.01	1.17	0.06	1.13	32.9	0.19	19.04	0	0.18	0.01	0.88	0.03	0	99.12
KL-gar-and-33	32.78	7.8	2.38	0	0.96	33.6	0.22	21.32	0.04	0.06	0	0.26	0.03	0.08	99.52
KL-gar-and-34	31.03	11.97	0.84	0	0.79	32.94	0.15	20.59	0	0.21	0	0.64	0.05	0.18	99.37
KL-gar-and-35	30.66	13.5	0.52	0.03	0.91	33.18	0.14	19.78	0.01	0.27	0	0.31	0	0.06	99.37
KL-gar-and-36	29.96	13.94	0.99	0	1.03	32.83	0.29	18.73	0.02	0.19	0.01	0.73	0	0.14	98.87
KL-gar-and-37	28.89	17.48	0.51	0	1.63	33.59	0.27	16.39	0	0.22	0	0.73	0	0.19	99.89
KL-gar-and-38	35.41	2.06	3.48	0	0.68	33.84	0.15	24.12	0	0	0	0.06	0.09	0.23	100.11
KL-gar-and-40	35.54	2.25	5.22	0	0.67	33.88	0.18	22.1	0.02	0.03	0	0.18	0.01	0.2	100.27
KL-gar-and-41	31.95	8.96	1.67	0	0.71	33.11	0.15	22.96	0	0.17	0	0.27	0	0.18	100.13
KL-gar-and-42	34.85	2.79	3.19	0	0.59	33.72	0.15	24.17	0	0.05	0	0.22	0	0.19	99.9
KL-gar-and-43	32.75	7.42	2	0.09	0.96	33.56	0.16	21.94	0.04	0.07	0	0.16	0	0.13	99.29
KL-gar-and-44	29.43	16.03	0.17	0	0.95	32.41	0.23	18.21	0	0.46	0	0.34	0	0.53	98.77
KL-gar-and-45	32.12	8.86	1.62	0.04	0.82	33.23	0.16	21.68	0	0.11	0	0.36	0.18	0.13	99.32
KL-gar-and-46	32.36	8.36	0.95	0.07	1.02	33.62	0.06	23.32	0	0.08	0.01	0.26	0	0.19	100.3
KL-gar-and-47	32.96	7.42	1.53	0.14	0.82	33.32	0.11	22.4	0	0.06	0	0.18	0	0.2	99.14
KL-gar-and-48	30.92	11.62	1.16	0	0.92	32.96	0.16	20.45	0.02	0.2	0	0.76	0.06	0.11	99.34
KL-gar-and-49	33.69	4.99	1.61	0.02	0.89	33.68	0.07	24.3	0	0.15	0	0.06	0.04	0.23	99.73
KL-gar-and-50	30.23	13.11	0.76	0.05	0.9	32.62	0.24	20.27	0.02	0.26	0	1.26	0.16	0.27	100.15
KL-gar-and-51	30.86	12.5	1.2	0	1.06	33.16	0.23	19.31	0.02	0.14	0	0.73	0.19	0.11	99.51
KL-gar-and-52	31.22	9.97	0.33	0.01	0.83	32.73	0.09	22.56	0	0.29	0	0.64	0	0.46	99.12

MacFadyen-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
MacFadyen-1 -1	dk purple	40.774	0.086	16.5496	9.5723	19.05	6.144	0.4368	7.066	0	0.0401	0	99.719
MacFadyen-1 -2	dk purple	41.387	0.229	18.031	7.2717	19.516	5.851	0.4602	7.524	0.022	0.0468	0.011	100.35
MacFadyen-1 -3	dk purple	40.63	0.322	15.767	9.6805	18.571	6.899	0.4141	7.42	0	0.0344	0	99.739
MacFadyen-1 -4	dk purple	40.669	0.051	17.0087	8.5812	18.76	6.401	0.4767	7.695	0.023	0.0223	0.017	99.705
MacFadyen-1 -6	dk purple	40.943	0.3042	17.3743	7.47	19.369	5.973	0.4018	7.602	0.048	0.0467	0.009	99.541
MacFadyen-1 -7	dk purple	40.936	0.0691	17.702	8.3877	19.675	5.489	0.379	7.647	0	0.0227	0	100.31
MacFadyen-1 -8	dk purple	40.945	0.3322	17.9048	7.2989	19.302	5.896	0.3458	7.825	0.009	0.0523	0.009	99.919
MacFadyen-1 -9	dk purple	40.672	0.3359	16.4072	9.2383	18.877	6.323	0.4596	7.61	0	0.066	0.015	100
MacFadyen-1 -10	dk purple	41.136	0.1382	17.8658	7.5767	19.797	5.596	0.402	7.216	0	0.0314	0.001	99.759
MacFadyen-1 -11	dk purple	40.572	0.3275	16.8416	8.7174	18.931	6.235	0.4389	7.663	0	0.0474	0	99.775
MacFadyen-1 -12	dk purple	41.268	0.1983	17.9737	7.4858	19.417	5.7	0.4552	7.155	0.002	0.0347	0	99.689
MacFadyen-1 -13	dk purple	41.525	0.0658	19.3673	5.7801	19.435	5.524	0.5508	8.01	0.056	0.0327	0.014	100.36
MacFadyen-1 -14	dk purple	41.386	0.1674	16.5737	8.0407	19.338	6.412	0.3206	7.431	0.031	0.0091	0	99.71
MacFadyen-1 -15	dk purple	40.367	0.359	15.7734	10.1916	18.178	6.871	0.4843	7.535	0.031	0.0507	0	99.842
MacFadyen-1 -16	dk purple	40.574	0.1598	16.2549	9.7281	18.633	6.626	0.4944	7.45	0	0.0325	0	99.954
MacFadyen-1 -17	dk purple	40.863	0.0683	17.8229	7.796	20.174	5.302	0.5025	7.452	0	0.0235	0.026	100.03
MacFadyen-1 -18	dk purple	40.484	0.1671	16.0582	9.9767	18.676	6.586	0.4189	7.399	0	0.0296	0.001	99.796
MacFadyen-1 -19	dk purple	41.005	0.3387	17.7492	7.572	19.426	6.115	0.4439	7.466	0	0.0552	0.017	100.19
MacFadyen-1 -20	dk purple	41.135	0.0659	17.0812	8.8478	19.535	5.773	0.4237	7.385	0	0.0303	0.007	100.28
MacFadyen-1 -21	dk purple	40.683	0.0826	17.018	8.9442	18.922	6.385	0.4209	7.378	0.015	0.0249	0.021	99.894
MacFadyen-1 -22	dk purple	40.895	0.1317	18.3595	6.8098	19.401	5.547	0.5336	7.782	0.013	0.0369	0.013	99.522
MacFadyen-1 -23	dk purple	41.116	0.0965	18.5007	6.7232	19.142	5.94	0.4848	7.515	0	0.031	0.004	99.553
MacFadyen-1 -24	dk purple	41.081	0.149	18.0591	7.3073	19.461	5.728	0.4202	7.433	0.004	0.0348	0.005	99.682
MacFadyen-1 -25	dk purple	40.934	0.0745	17.4778	7.6265	19.382	6.188	0.3516	7.357	0.021	0.0168	0	99.428
MacFadyen-1 -26	purple	41.196	0.0792	18.9505	6.3659	19.189	5.734	0.4541	7.859	0	0.037	0	99.865
MacFadyen-1 -27	purple	41.757	0.023	20.8999	4.0319	20.147	5.235	0.526	7.448	0.019	0.0363	0	100.12
MacFadyen-1 -28	purple	41.721	0.0197	21.5761	3.41	19.722	5.013	0.5364	8.552	0.062	0.0113	0.005	100.63
MacFadyen-1 -29	purple	41.571	0.1435	20.9775	3.5268	19.82	4.631	0.5348	8.929	0.038	0.0405	0	100.21
MacFadyen-1 -30	purple	41.433	0.0306	20.0452	5.0064	19.48	4.897	0.6306	8.293	0.01	0.0335	0	99.859
MacFadyen-1 -31	purple	40.632	0.0269	17.0238	8.4309	18.164	7.149	0.3901	7.868	0.034	0.003	0	99.72
MacFadyen-1 -32	purple	41.279	0.214	19.6056	5.2229	20.132	5.229	0.3986	7.905	0.019	0.0338	0	100.04
MacFadyen-1 -33	purple	42.126	0	20.6294	4.9278	21.272	4.001	0.4539	7.52	0	0.0108	0.007	100.95
MacFadyen-1 -34	purple	41.852	0.347	20.7763	3.6273	20.234	5.106	0.4316	7.736	0.053	0.0562	0	100.22
MacFadyen-1 -35	purple	41.551	0.2734	19.2336	6.168	20.184	5.004	0.3802	7.426	0	0.0551	0.005	100.28
MacFadyen-1 -36	purple	41.676	0.1457	19.7287	5.1907	20.833	5.058	0.3898	6.921	0	0.0345	0	99.978
MacFadyen-1 -37	purple	41.489	0	20.8442	4.5003	21.423	3.609	0.4034	7.516	0	0.01	0.004	99.799
MacFadyen-1 -38	purple	41.305	0.015	20.6297	4.2703	19.263	5.306	0.5697	8.734	0.038	0.0125	0	100.14
MacFadyen-1 -39	purple	41.251	0.3443	18.0332	7.5584	19.961	5.759	0.3981	7.24	0.043	0.0372	0	100.63
MacFadyen-1 -40	purple	40.907	0	18.8728	6.5545	17.893	7.193	0.5912	8.11	0	0.0055	0	100.13
MacFadyen-1 -41	purple	41.911	0.0398	20.9516	4.4988	20.389	4.59	0.5801	8.054	0	0.0261	0	101.04
MacFadyen-1 -42	purple	41.218	0.1383	19.4631	5.6288	20.023	5.088	0.4858	7.74	0	0.0365	0	99.821
MacFadyen-1 -43	purple	41.36	0.1485	18.6405	6.3939	19.669	5.558	0.4281	7.466	0.025	0.0317	0.02	99.739
MacFadyen-1 -44	purple	41.388	0.0695	18.4691	6.9328	19.815	5.432	0.4335	7.458	0.01	0.018	0	100.03
MacFadyen-1 -45	purple	41.916	0.3633	20.5087	4.2238	20.484	4.852	0.4361	7.686	0	0.0532	0.013	100.54
MacFadyen-1 -46	purple	41.373	0.1563	18.957	6.0034	19.447	5.466	0.4392	8.292	0.028	0.027	0	100.19
MacFadyen-1 -47	purple	41.625	0.007	20.8425	4.4961	21.281	3.418	0.4584	8.047	0	0	0.023	100.2
MacFadyen-1 -48	purple	41.031	0.0898	17.8214	7.8895	19.072	6.15	0.4918	7.677	0.013	0.0268	0.009	100.27
MacFadyen-1 -49	purple	41.806	0.0258	20.4127	4.4417	20.143	4.663	0.5796	7.876	0	0.0388	0.004	99.99
MacFadyen-1 -50	purple	41.279	0.0771	19.7971	5.2815	19.682	5.128	0.5663	7.989	0	0.0279	0	99.828
MacFadyen-1 -51	purple	41.648	0.137	19.3941	5.7258	20.247	5.18	0.4117	7.567	0.041	0.029	0.009	100.39
MacFadyen-1 -52	purple	41.274	0.0122	19.6271	5.3839	19.408	5.362	0.5717	8.162	0	0.0332	0.014	99.847
MacFadyen-1 -53	purple	42.115	0.1996	21.771	2.3592	20.848	4.476	0.4034	7.881	0	0.0376	0	100.09
MacFadyen-1 -54	purple	41.188	0.1077	18.3501	7.2641	20.009	5.47	0.4673	6.987	0.01	0.0263	0.012	99.891
MacFadyen-1 -55	purple	41.275	0.106	18.8523	6.4208	19.721	5.636	0.4522	7.755	0	0.0263	0.007	100.25
MacFadyen-1 -56	purple	41.088	0.2088	17.8591	7.6721	19.318	5.886	0.463	7.381	0	0.0433	0.018	99.936
MacFadyen-1 -57	purple	41.508	0.0905	20.0787	4.6808	20.471	5.219	0.3266	7.367	0	0.0117	0	99.753
MacFadyen-1 -58	purple	41.299	0.1666	19.8461	5.4047	19.921	5.159	0.4107	7.619	0.06	0.0382	0.018	99.941
MacFadyen-1 -59	purple	40.983	0.0584	18.6146	6.7246	19.172	5.938	0.4789	7.53	0.026	0.0212	0	99.546
MacFadyen-1 -60	purple	41.279	0.049	20.6807	4.306	19.661	5.002	0.5011	8.286	0.018	0.0192	0	99.801
MacFadyen-1 -61	purple	41.447	0.0255	20.9216	3.9354	19.281	5.015	0.5252	8.747	0.004	0.0159	0	99.918
MacFadyen-1 -62	purple	41.666	0.0268	21.7904	2.7332	19.538	4.819	0.6096	9.051	0	0.0103	0.002	100.24

MacFadyen-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
MacFadyen-1 -63	purple	41.476	0.0356	20.2339	4.5314	19.587	4.838	0.6015	8.558	0	0.0366	0.002	99.9
MacFadyen-1 -64	purple	41.433	0.007	19.5345	5.5411	19.631	5.719	0.4023	7.631	0	0.015	0.001	99.915
MacFadyen-1 -65	purple	41.329	0.2404	18.3594	6.6956	19.302	5.713	0.4353	7.813	0.024	0.043	0.025	99.979
MacFadyen-1 -66	purple	41.226	0.1851	18.0956	7.49	19.513	5.729	0.4701	7.407	0	0.0394	0.026	100.18
MacFadyen-1 -67	purple	40.579	0.0526	17.2244	8.3355	18.58	6.359	0.4723	7.783	0	0.0325	0.019	99.437
MacFadyen-1 -68	purple	41.654	0.1458	20.2804	4.9528	20.76	4.812	0.4477	7.401	0	0.0407	0.034	100.53
MacFadyen-1 -69	purple	41.783	0.0272	20.1188	4.8801	19.585	5.402	0.5822	8.182	0.032	0.0212	0.023	100.64
MacFadyen-1 -70	purple	41.568	0.1249	19.5726	5.5972	20.271	5.056	0.4738	7.912	0	0.0494	0	100.63
MacFadyen-1 -71	purple	41.727	0.0089	21.3728	3.2476	20.644	3.902	0.5762	8.291	0.01	0.015	0.011	99.806
MacFadyen-1 -72	purple	41.406	0.1855	18.5537	6.4553	19.997	5.408	0.4286	7.576	0.029	0.0269	0	100.07
MacFadyen-1 -73	purple	41.734	0.0764	20.3916	4.6586	20.488	4.746	0.5855	7.572	0.021	0.0317	0.029	100.33
MacFadyen-1 -74	purple	41.981	0.1337	20.4353	4.7067	20.222	4.967	0.4069	7.666	0	0.0266	0	100.55
MacFadyen-1 -75	purple	41.753	0.2578	19.8355	4.7467	20.249	4.984	0.3786	7.954	0	0.035	0.007	100.2
MacFadyen-1 -76	purple	41.646	0.0229	19.8208	5.4194	20.014	5.068	0.5469	7.98	0.01	0.0326	0	100.56
MacFadyen-1 -77	purple	41.981	0.1343	20.481	4.1566	20.851	4.781	0.4269	7.63	0.016	0.0246	0.02	100.5
MacFadyen-1 -78	purple	41.692	0.1673	19.5819	5.3705	20.431	5.214	0.3391	7.474	0.063	0.0252	0	100.36
MacFadyen-1 -79	purple	41.387	0.0075	20.0343	5.1209	19.63	5.52	0.557	7.879	0	0.01	0.006	100.15
MacFadyen-1 -80	purple	41.346	0.1002	20.0769	4.9449	19.704	4.958	0.5119	8.098	0.077	0.0441	0	99.86
MacFadyen-1 -81	purple	41.471	0.2711	18.921	6.2681	19.993	5.109	0.4231	7.518	0	0.0597	0.017	100.05
MacFadyen-1 -82	purple	42	0	20.8938	4.5274	21.372	3.11	0.5321	7.849	0	0.0144	0	100.3
MacFadyen-1 -83	purple	41.123	0.0154	20.2307	4.8798	19.229	5.426	0.5188	8.404	0	0.0186	0.006	99.851
MacFadyen-1 -84	purple	41.356	0	20.3096	4.9142	19.615	4.971	0.5312	8.687	0	0.0306	0	100.41
MacFadyen-1 -85	purple	41.416	0.0749	19.2236	6.0191	19.931	5.393	0.4136	7.26	0	0.0206	0.01	99.762
MacFadyen-1 -86	purple	41.366	0.0641	19.8843	5.1274	19.575	5.062	0.4796	7.996	0	0.0416	0	99.596
MacFadyen-1 -87	purple	41.18	0.0491	19.9305	4.9462	19.817	5.025	0.5386	8.321	0	0.0293	0	99.836
MacFadyen-1 -88	purple	41.082	0.407	18.1159	7.3263	19.342	5.951	0.4087	7.424	0.05	0.0575	0	100.16
MacFadyen-1 -89	purple	41.584	0.0267	20.0844	4.6484	20.205	5.191	0.3703	7.94	0.003	0.0283	0	100.08
MacFadyen-1 -90	purple	41.48	0.1141	21.1552	3.5827	19.568	4.653	0.4599	9.044	0.024	0.0357	0	100.12
MacFadyen-1 -91	purple	41.069	0.0108	19.4877	5.7633	18.13	6.932	0.5765	8.024	0.002	0	0.045	100.04
MacFadyen-1 -92	purple	40.734	0.0888	17.0059	9.0304	18.453	6.724	0.4706	7.855	0.029	0.0287	0.009	100.43
MacFadyen-1 -93	purple	41.546	0.0646	19.369	5.5165	19.573	5.224	0.5076	7.86	0	0.0379	0.014	99.712
MacFadyen-1 -94	purple	42.241	0.1892	21.6726	2.8687	21.375	4.024	0.4149	8.162	0	0.033	0.018	101
MacFadyen-1 -95	purple	41.499	0.1505	19.7166	5.311	20.759	4.963	0.338	7.064	0.009	0.0323	0	99.843
MacFadyen-1 -96	purple	41.857	0.1596	20.7138	3.9961	20.593	4.677	0.4396	7.792	0.002	0.0405	0	100.27
MacFadyen-1 -97	purple	41.285	0.2414	19.7846	4.8922	20.061	4.996	0.4492	8.141	0.015	0.0449	0.007	99.917
MacFadyen-1 -98	purple	41.393	0.1079	18.4949	6.8837	19.889	5.469	0.4329	7.295	0.031	0.0367	0.021	100.05
MacFadyen-1 -99	purple	41.774	0.0178	20.3395	4.3578	20.321	4.605	0.5545	8.109	0.004	0.0279	0.024	100.14
MacFadyen-1 -100	purple	41.721	0.0075	20.1718	4.9705	19.78	5.422	0.5295	7.947	0.019	0.0272	0.004	100.6
MacFadyen-1 -101	purple	41.333	0.2109	19.5026	5.2814	20.369	5.116	0.4224	7.399	0.019	0.0364	0	99.69
MacFadyen-1 -102	purple	41.617	0.1654	19.5298	5.306	20.355	5.073	0.4617	7.63	0.012	0.041	0	100.19
MacFadyen-1 -103	purple	41.259	0.2229	18.4031	7.0833	19.635	5.61	0.4723	7.358	0	0.0383	0.004	100.08
MacFadyen-1 -104	purple	41.895	0.068	20.3266	4.6135	20.021	4.749	0.4776	8.166	0.016	0.036	0.044	100.41
MacFadyen-1 -105	purple	41.368	0.0726	20.0968	5.071	20.451	4.665	0.5126	7.913	0	0.0387	0	100.19
MacFadyen-1 -106	purple	41.602	0.0131	20.7461	4.0925	19.499	5.236	0.5788	8.694	0.031	0	0	100.49
MacFadyen-1 -107	purple	41.348	0.074	19.4717	6.0075	19.853	5.388	0.5081	7.578	0	0.0198	0	100.25
MacFadyen-1 -108	purple	40.964	0.1121	18.3166	7.3367	19.816	5.688	0.4344	7.509	0	0.0342	0	100.21
MacFadyen-1 -109	purple	41.518	0.0338	20.3188	4.7178	20.049	4.823	0.5493	8.129	0.013	0.0346	0	100.19
MacFadyen-1 -110	purple	40.955	0.0876	17.0246	8.8792	18.895	6.445	0.4898	7.413	0.022	0.0168	0	100.23
MacFadyen-1 -111	purple	41.425	0	20.9341	4.1985	19.333	5.272	0.5803	8.587	0	0.0098	0	100.34
MacFadyen-1 -112	purple	41.35	0.0249	20.4242	4.7441	20.259	4.78	0.5847	7.985	0	0.0298	0	100.18
MacFadyen-1 -113	purple	41.269	0.0511	19.7707	5.3141	19.543	5.541	0.5478	7.933	0	0.0235	0.003	99.996
MacFadyen-1 -114	purple	41.769	0.1271	19.5869	5.5245	20.357	5.381	0.393	7.636	0.044	0.034	0	100.85
MacFadyen-1 -115	purple	41.703	0.3276	20.4956	3.9584	20.647	4.677	0.4077	7.737	0	0.0477	0.038	100.04
MacFadyen-1 -116	purple	41.3	0	20.9944	3.6081	19.389	5.076	0.5794	8.512	0	0.0166	0.018	99.494
MacFadyen-1 -117	purple	41.605	0.083	20.2454	4.8188	19.883	5.078	0.6113	7.896	0.022	0.0265	0	100.27
MacFadyen-1 -118	purple	41.581	0	21.0817	3.8715	19.548	5.05	0.5679	8.472	0	0.0023	0	100.17
MacFadyen-1 -119	purple	41.518	0.0197	20.3101	4.7962	20.171	4.589	0.51	7.981	0	0.0153	0	99.91
MacFadyen-1 -120	purple	41.387	0	20.5234	4.4972	19.071	5.341	0.5532	8.412	0	0.0117	0	99.797
MacFadyen-1 -121	purple	41.283	0.2462	18.4677	7.103	19.719	5.601	0.3773	7.312	0	0.0324	0.03	100.17
MacFadyen-1 -122	purple	41.128	0.2951	19.1788	6.3076	20.088	5.028	0.4325	7.586	0.034	0.0603	0.019	100.16
MacFadyen-1 -123	red	41.274	0.2087	19.6987	5.0629	19.93	5.107	0.4241	7.728	0	0.0349	0	99.469

MacFadyen-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
MacFadyen-1 -124	red	41.358	0.1889	19.0745	5.9989	19.446	5.474	0.4908	8.255	0.018	0.0358	0	100.34
MacFadyen-1 -125	red	41.895	0.1882	21.0373	3.2332	20.73	4.485	0.4235	8.128	0.027	0.0401	0.006	100.19
MacFadyen-1 -126	red	42.25	0.1925	21.961	2.2918	20.98	4.365	0.4141	8.007	0	0.035	0.009	100.51
MacFadyen-1 -127	red	41.342	0.0192	18.0433	7.3946	18.884	6.749	0.4511	7.767	0.016	0.0116	0	100.68
MacFadyen-1 -128	red	42.194	0.2074	21.5426	2.7488	20.883	4.607	0.3673	8.09	0	0.0313	0.005	100.68
MacFadyen-1 -129	red	41.102	0.2853	17.7207	7.546	19.365	5.777	0.4554	7.514	0	0.04	0	99.805
MacFadyen-1 -130	red	41.823	0.1882	19.8615	5.1703	20.419	5.055	0.3665	7.527	0	0.0306	0	100.44
MacFadyen-1 -131	red	41.379	0.0324	20.5835	4.4179	19.373	5.357	0.5765	8.001	0	0.0164	0	99.737
MacFadyen-1 -132	red	41.603	0.0957	20.2212	4.9329	20.219	4.827	0.5456	7.507	0.06	0.0434	0.009	100.06
MacFadyen-1 -133	red	41.457	0.2843	18.9732	6.1203	20.001	5.339	0.469	7.732	0	0.0551	0	100.43
MacFadyen-1 -134	red	40.824	0.269	19.5387	4.9805	19.842	5.085	0.4422	8.344	0.01	0.0357	0.015	99.387
MacFadyen-1 -135	red	41.397	0.2122	19.5352	5.1826	20.138	5.086	0.375	7.481	0	0.0483	0	99.455
MacFadyen-1 -136	red	41.263	0.0267	18.392	5.9237	19.859	6.033	0.3144	7.84	0.003	0.0023	0	99.658
MacFadyen-1 -137	red	41.043	0.3283	17.9738	7.3732	19.792	5.706	0.4236	7.17	0.021	0.0443	0.008	99.883
MacFadyen-1 -138	red	41.215	0.1262	18.2013	6.9008	19.469	5.716	0.4697	7.936	0	0.0417	0.028	100.1
MacFadyen-1 -139	red	40.915	0.0317	17.0809	8.613	18.299	6.684	0.4367	8.055	0.01	0.0066	0	100.13
MacFadyen-1 -140	red	41.071	0.179	18.2224	7.2714	19.684	5.422	0.4405	7.347	0	0.0336	0.019	99.69
MacFadyen-1 -141	red	41.5	0.1606	19.4576	5.3784	20.281	5.353	0.3893	7.461	0.002	0.0288	0.017	100.03
MacFadyen-1 -142	red	41.393	0.5857	18.9625	4.1873	19.203	5.159	0.3712	10.64	0.06	0.0523	0	100.61
MacFadyen-1 -143	red	42.039	0.2001	21.7271	2.5363	21.047	4.399	0.4426	7.905	0.025	0.0345	0.02	100.38
MacFadyen-1 -144	red	41.618	0.2022	19.1694	5.8957	20.2	5.235	0.4638	7.394	0	0.0354	0.002	100.22
MacFadyen-1 -145	red	41.426	0.196	19.2033	5.6211	20.014	5.423	0.4677	8.03	0	0.0386	0	100.42
MacFadyen-1 -146	red	41.42	0.1566	19.3635	5.6679	19.785	5.393	0.4411	7.976	0.05	0.0405	0	100.29
MacFadyen-1 -147	red	41.237	0.2088	18.3182	6.7226	19.844	5.677	0.3788	7.641	0.021	0.0375	0	100.08
MacFadyen-1 -148	red	42.044	0.0428	20.7401	4.3043	20.249	4.54	0.5587	8.093	0	0.0448	0	100.62
MacFadyen-1 -149	red	40.917	0.3517	17.5553	7.732	19.211	5.958	0.3739	7.879	0	0.0495	0.035	100.06
MacFadyen-1 -150	red	41.411	0.1314	20.0789	5.018	19.633	5.313	0.5319	7.998	0	0.047	0.016	100.18
MacFadyen-1 -151	red	41.27	0.5763	17.4678	5.3518	20.513	5.522	0.3015	8.354	0.022	0.0468	0	99.424
MacFadyen-1 -152	red	41.242	0.2447	19.4541	5.3054	20.516	5.116	0.4345	7.532	0.053	0.0336	0	99.932
MacFadyen-1 -153	red	41.924	0.5411	20.3543	2.8298	20.735	4.559	0.2939	8.787	0.025	0.0669	0	100.12
MacFadyen-1 -154	red	41.013	0.1029	17.9784	7.809	19.638	5.824	0.3562	6.979	0.012	0.0292	0.006	99.747
MacFadyen-1 -155	red	41.173	0.2527	18.8548	6.2255	20.122	5.521	0.4678	7.477	0	0.0392	0	100.13
MacFadyen-1 -156	red	41.034	0.1858	15.8117	7.279	19.487	6.743	0.2909	9.165	0.038	0.0126	0	100.05
MacFadyen-1 -157	red	41.487	0.1262	20.1051	5.0491	19.5	5.184	0.4778	8.379	0	0.0359	0.007	100.35
MacFadyen-1 -158	red	41.696	0.2535	21.0349	3.4776	20.791	4.481	0.3547	7.739	0.024	0.0507	0	99.901
MacFadyen-1 -159	red	40.956	0.3061	18.0291	7.2281	19.37	5.707	0.4277	7.91	0.049	0.0435	0	100.03
MacFadyen-1 -160	red	41.52	0.0911	19.456	5.3953	20.223	5.5	0.3343	7.613	0	0.0187	0	100.15
MacFadyen-1 -161	red	41.435	0.1834	19.484	5.6536	20.325	5.142	0.444	7.738	0.041	0.0352	0.015	100.5
MacFadyen-1 -162	red	41.032	0.151	18.2408	6.9871	18.762	6.01	0.5149	8.176	0.006	0.0292	0	99.909
MacFadyen-1 -163	red	41.729	0.3785	20.7691	3.5208	20.445	5.116	0.4791	7.649	0	0.0424	0	100.13
MacFadyen-1 -164	red	41.586	0.1161	20.4563	4.7978	20.526	4.787	0.4844	7.537	0	0.0372	0.009	100.34
MacFadyen-1 -165	red	41.972	0.2842	20.7419	3.5699	20.774	4.77	0.3152	7.976	0	0.0286	0	100.43
MacFadyen-1 -166	red	41.656	0.2467	19.6628	5.003	19.956	5.136	0.3838	7.774	0	0.0355	0	99.853
MacFadyen-1 -167	red	41.453	0.1015	20.0418	5.0541	20.043	4.873	0.5705	7.395	0.012	0.0405	0	99.584
MacFadyen-1 -168	red	42.033	0.1649	21.7342	2.4284	20.926	4.526	0.4092	8.031	0.006	0.0417	0	100.3
MacFadyen-1 -169	red	41.231	0.1696	19.2288	5.6694	20.272	5.304	0.3994	7.509	0	0.0366	0	99.82
MacFadyen-1 -170	red	41.605	0.1147	19.9123	5.0768	20.51	4.864	0.408	7.451	0	0.0406	6E-04	99.982
MacFadyen-1 -171	red	41.138	0.0723	20.1945	5.036	19.808	5.047	0.5515	7.957	0.026	0.0329	0	99.864
MacFadyen-1 -172	red	41.571	0.048	20.2759	4.6785	20.299	5.145	0.3519	7.598	0.038	0.0157	0.011	100.03
MacFadyen-1 -173	purple	41.599	0.0531	20.2754	4.5907	19.914	4.995	0.5687	8.301	0	0.0393	0.009	100.35
MacFadyen-1 -174	purple	41.55	0.1809	20.8915	3.6021	20.338	4.748	0.3831	8.142	0	0.0297	0	99.865
MacFadyen-1 -175	purple	41.29	0.1036	18.5564	6.7534	19.315	6.188	0.3862	7.864	0.049	0.0095	0	100.51
MacFadyen-1 -176	purple	41.59	0.0594	21.2279	3.7234	20.59	4.558	0.5385	7.871	0.009	0.0243	0.008	100.2
MacFadyen-1 -177	purple	41.468	0	20.7968	4.2232	19.216	5.263	0.5829	8.536	0.01	0.0113	0.009	100.12
MacFadyen-1 -178	purple	41.842	0.0457	21.7463	2.6542	20.279	4.254	0.694	9.012	0	0.0248	0	100.55
MacFadyen-1 -179	purple	41.133	0.1974	19.4353	5.3236	20.236	5.033	0.4322	7.385	0.007	0.0408	0	99.223
MacFadyen-1 -180	purple	41.549	0.1987	20.0488	4.695	20.427	6.466	0.3452	5.738	0	0.0331	0.004	99.503
MacFadyen-1 -181	purple	41.199	0.0953	18.4656	7.3508	19.718	5.488	0.4478	7.272	0.012	0.0271	0.027	100.1
MacFadyen-1 -182	purple	41.613	0.132	20.8472	3.973	20.629	4.798	0.4951	7.482	0	0.0445	0	100.01
MacFadyen-1 -183	purple	41.879	0.1952	21.2211	3.3521	20.597	4.684	0.3974	8.311	0.033	0.0379	0.017	100.72
MacFadyen-1 -184	purple	41.106	0.2414	18.3096	7.373	20.44	5.323	0.3809	6.815	0	0.1159	0	100.1

MacFadyen-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
MacFadyen-1 -185	purple	41.816	0.15	21.029	3.5059	20.29	4.678	0.4104	8.109	0	0.0312	0.006	100.03
MacFadyen-1 -186	purple	41.752	0.0236	21.3752	3.5105	19.868	4.958	0.6208	8.353	0.015	0.0178	0	100.49
MacFadyen-1 -187	purple	41.189	0.1703	17.6814	7.9946	19.367	6.107	0.4632	7.518	0.043	0.0311	0.009	100.57
MacFadyen-1 -188	purple	41.192	0.1619	18.3708	7.0783	19.206	5.589	0.5719	8.299	0	0.0383	0	100.51
MacFadyen-1 -189	purple	41.529	0.0075	21.0035	3.7312	19.932	4.621	0.5173	8.685	0.022	0.0253	0.005	100.08
MacFadyen-1 -190	purple	41.58	0.1696	19.5769	5.6015	20.354	5.124	0.3585	7.71	0.03	0.031	0	100.54
MacFadyen-1 -191	purple	41.389	0	19.9704	4.9926	19.445	5.474	0.5497	7.75	0.041	0.0234	0	99.634
MacFadyen-1 -192	purple	41.458	0	21.2282	3.5005	19.486	4.995	0.5288	8.573	0.027	0.0077	0.032	99.836
MacFadyen-1 -193	purple	41.584	0.122	20.6297	4.4078	20.456	4.822	0.4129	7.524	0.012	0.0363	0	100.01
MacFadyen-1 -194	purple	40.468	0.1493	19.1689	5.2753	16.485	5.857	0.4312	12.17	0.012	0.0299	0	100.04
MacFadyen-1 -195	purple	42.164	0.0283	20.8393	4.4749	20.477	4.644	0.5528	7.894	0.033	0.0314	0.021	101.16
MacFadyen-1 -196	purple	41.361	0.1712	19.807	5.1977	20.155	4.965	0.4239	7.634	0	0.0324	0.021	99.768
MacFadyen-1 -197	purple	41.719	0.1355	20.8068	3.7087	21.014	4.543	0.4389	7.476	0	0.0421	0	99.884
MacFadyen-1 -198	orange	41.714	0.5611	20.0199	3.0003	20.74	4.503	0.2504	8.953	0.028	0.0649	0	99.835
MacFadyen-1 -199	orange	38.082	0.0908	21.1894	0.1329	6.4945	5.882	0.5455	27.64	0.052	0.0089	0	100.12
MacFadyen-1 -200	orange	41.261	0.6435	21.3789	0.0917	17.648	4.702	0.4819	14.17	0	0.0616	0	100.44
MacFadyen-1 -201	orange	41.806	0.5271	19.9042	2.8887	20.646	4.525	0.2859	8.751	0.006	0.0653	0	99.405
MacFadyen-1 -202	orange	41.308	0.6964	20.9349	0.8392	18.809	4.696	0.3654	12.47	0	0.0677	0	100.19
MacFadyen-1 -203	orange	37.962	0.1031	21.2507	0.0958	6.769	5.59	0.5402	27.89	0.016	0.0156	0	100.23
MacFadyen-1 -204	orange	41.8	0.5321	20.1047	2.904	20.672	4.532	0.3297	8.902	0.013	0.0643	0	99.854
MacFadyen-1 -205	orange	37.87	0.0683	21.1052	0.1497	5.208	6.842	0.5571	29.03	0.001	0.0213	0.02	100.88
MacFadyen-1 -206	orange	41.722	0.5495	19.5798	3.4234	20.66	4.853	0.3015	8.486	0	0.0635	0	99.639
MacFadyen-1 -207	orange	41.88	0.1312	22.3464	1.764	21.073	4.153	0.373	8.218	0.018	0.0425	0	99.999
MacFadyen-1 -208	orange	41.783	0.3539	21.5588	2.4243	20.666	4.394	0.4037	8.623	0	0.0435	0	100.25
MacFadyen-1 -209	orange	42.031	0.2674	22.2392	1.7607	21.071	4.004	0.4126	8.338	0.034	0.0562	0	100.21
MacFadyen-1 -210	orange	42.285	0.1372	22.675	1.686	21.491	4.218	0.378	7.88	0.021	0.035	0	100.81
MacFadyen-1 -212	orange	41.533	0.7098	21.3735	0.612	18.895	4.307	0.3995	12.6	0	0.0787	0.022	100.53
MacFadyen-1 -213	orange	41.902	0.6333	21.3553	0.7666	19.411	4.583	0.4479	11.75	0.003	0.0637	0.001	100.91
MacFadyen-1 -214	orange	39.519	0.2299	21.8663	0.0408	10.677	7.972	0.4901	18.96	0	0.0554	0	99.81
MacFadyen-1 -215	orange	38.295	0.0506	21.3714	0.1024	6.8661	5.581	0.5249	28.03	0	0.0122	0.005	100.84
MacFadyen-1 -216	orange	38.801	0.0336	21.3617	0.0692	7.6263	6.98	0.4398	25.09	0.039	0.0129	0	100.46
MacFadyen-1 -217	orange	38.247	0.0634	21.2269	0.0755	6.5361	5.591	0.528	27.89	0	0.0098	0	100.17
MacFadyen-1 -218	orange	41.805	0.2701	23.1878	0.2221	19.905	4.002	0.3259	10.41	0.036	0.0545	0	100.22
MacFadyen-1 -219	orange	41.877	0.3976	21.1876	2.8414	21.206	4.475	0.377	7.99	0.016	0.04	0	100.41
MacFadyen-1 -220	orange	40.964	0.6573	21.2217	0.1008	17.736	4.701	0.4908	13.86	0.031	0.0462	9E-04	99.812
MacFadyen-1 -221	orange	42.096	0.5478	21.2844	1.1002	20.187	4.492	0.303	10.62	0.022	0.052	0.008	100.71
MacFadyen-1 -222	orange	41.768	0.5408	20.0953	2.9987	20.676	4.612	0.2817	8.883	0.055	0.0579	0.007	99.976
MacFadyen-1 -223	orange	41.959	0.4972	20.6038	2.1529	20.698	4.677	0.2904	9.281	0.006	0.0522	0	100.22
MacFadyen-1 -224	orange	41.794	0.6187	20.5893	1.6908	20.148	4.655	0.2846	10.13	0.003	0.0373	0.01	99.963
MacFadyen-1 -225	orange	38.348	0.0228	21.5126	0.0978	7.0166	5.365	0.5656	27.74	0	0.0055	0	100.67
MacFadyen-1 -226	orange	41.38	0.5703	19.949	3.9839	19.931	5.147	0.4358	8.474	0.001	0.0515	0	99.924
MacFadyen-1 -227	orange	38.264	0.0078	21.2027	0.0785	6.9766	5.56	0.5048	27.72	0.002	0.0017	0	100.32
MacFadyen-1 -228	orange	38.24	0.0675	21.3245	0.1087	6.9671	5.593	0.5363	28.01	0.035	0.0155	0	100.89
MacFadyen-1 -229	orange	38.945	0.1426	22.1224	0.0232	8.2937	8.105	0.411	22.47	0.05	0.0554	0.007	100.62
MacFadyen-1 -230	orange	42.141	0.1861	21.3771	3.2936	20.79	4.499	0.3415	8.414	0	0.0468	0.001	101.09
MacFadyen-1 -231	orange	39.173	0.0539	21.5966	0.1128	6.7869	5.91	0.5309	27.88	0	0.0184	0.044	102.1
MacFadyen-1 -232	orange	38.823	0.2281	21.7229	0.0278	7.8168	6.409	0.4874	24.87	0.006	0.0705	0	100.46
MacFadyen-1 -233	orange	38.4	0.0169	21.3359	0.1021	6.7739	5.605	0.5918	27.76	0	0.005	0	100.59
MacFadyen-1 -234	orange	38.321	0.0279	21.3613	0.0929	6.9795	5.564	0.538	27.76	0	0	0.001	100.65
MacFadyen-1 -235	orange	38.05	0.132	21.1134	0.0968	5.4284	6.977	0.4988	28.09	0.06	0.0034	0	100.45
MacFadyen-1 -236	orange	41.724	0.6323	20.8749	0.997	19.366	4.549	0.43	11.53	0	0.0544	0.003	100.16
MacFadyen-1 -237	orange	41.326	0.6921	20.9558	0.7557	18.735	4.574	0.3716	12.46	0.01	0.0553	0	99.934
MacFadyen-1 -238	orange	38.738	0.058	21.3647	0.0127	7.5543	7.005	0.504	24.99	0.05	0.016	0.001	100.29
MacFadyen-1 -239	orange	38.163	0.0735	21.3701	0.0731	6.7949	5.827	0.4978	27.84	0	0.0127	0.003	100.66
MacFadyen-1 -240	orange	41.499	0.6116	19.709	3.0981	20.548	4.886	0.3116	9.062	0.007	0.0442	0.004	99.781
MacFadyen-1 -241	orange	41.495	0.7408	20.9874	0.8226	18.805	4.644	0.3942	12.22	0	0.0551	0	100.16
MacFadyen-1 -242	orange	41.954	0.1941	21.7902	2.478	20.952	4.361	0.4086	8.116	0	0.0338	0.034	100.32
MacFadyen-1 -243	orange	38.329	0.0906	21.199	0.0039	6.8884	5.746	0.5177	27.24	0	0.0174	0	100.03
MacFadyen-1 -244	orange	38.27	0.058	21.2447	0.0588	6.6785	5.826	0.4881	27.94	0	0.0215	0	100.58

MacFadyen-1 Chromite

Sample	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Tot
MacFad-1 -1	0.004	0.062	0	0.0285	9.539	56.897	0.328	10.827	0.016	0.193	21.252	0.142	0.184	99.472	4.732	16.994	99.946
MacFad-1 -2	0.023	0.477	0.004	0	2.673	60.557	0.397	9.404	0.041	0.268	25.130	0.075	0.055	99.103	7.269	18.589	99.832
MacFad-1 -3	0.042	3.088	0	0.01	4.516	54.868	0.494	10.613	0.030	0.171	25.263	0.211	0.140	99.446	6.348	19.551	100.082
MacFad-1 -4	0.054	0	0.004	0	9.386	57.698	0.316	10.854	0.028	0.392	20.682	0.032	0.213	99.657	4.281	16.830	100.086
MacFad-1 -5	0.033	0.741	0	0.0155	8.687	55.780	0.087	10.706	0.037	0.332	22.240	0.060	0.101	98.818	5.699	17.112	99.389
MacFad-1 -6	0.03	0.409	0	0.0528	9.484	56.251	0.281	10.983	0.072	0.320	21.784	0.142	0.101	99.910	5.249	17.062	100.436
MacFad-1 -7	0.009	0.186	0.001	0	7.597	56.605	0.215	9.133	0.050	0.406	25.057	0.134	0.111	99.504	6.650	19.074	100.170
MacFad-1 -8	0.042	0.062	0.019	0.0257	9.263	55.957	0.402	10.709	0.027	0.146	22.425	0.047	0.061	99.186	5.501	17.475	99.737
MacFad-1 -9	0.028	0.113	0	0	9.465	56.477	0.160	10.540	0.022	0.275	22.112	0.060	0.210	99.461	5.459	17.199	100.008
MacFad-1 -10	0.028	1.047	0	0.0372	8.587	56.176	0.098	10.939	0.014	0.331	21.857	0.140	0.152	99.407	5.264	17.120	99.934
MacFad-1 -11	0.057	2.945	0.027	0	4.505	55.113	0.418	10.729	0.024	0.469	24.809	0.175	0.000	99.270	6.474	18.984	99.919
MacFad-1 -12	0.029	0.077	0	0	11.291	59.683	0.331	10.805	0.000	0.349	17.132	0.027	0.099	99.821	-0.325	17.424	99.788
MacFad-1 -13	0.026	0.231	0	0	9.226	57.913	0.244	10.826	0.057	0.183	20.773	0.049	0.322	99.850	4.169	17.022	100.267
MacFad-1 -14	0.018	0.367	0.001	0.0128	9.255	56.610	0.223	10.212	0.023	0.147	21.859	0.063	0.226	99.017	4.356	17.940	99.454
MacFad-1 -15	0.07	0.903	0	0	8.482	57.508	0.180	10.648	0.004	0.510	20.983	0.063	0.181	99.533	3.891	17.481	99.923
MacFad-1 -16	0.038	0.079	0.026	0	9.340	57.613	0.398	10.842	0.014	0.216	21.019	0.069	0.280	99.932	4.217	17.224	100.355
MacFad-1 -17	0.021	3.003	0	0.002	2.577	50.468	0.570	8.481	0.021	0.267	32.953	0.247	0.011	98.621	11.788	22.346	99.802
MacFad-1 -18	0.074	0.24	0	0.0201	5.863	60.287	0.140	10.332	0.004	0.339	22.218	0.077	0.040	99.632	5.515	17.255	100.184
MacFad-1 -19	0.02	0.043	0.001	0	10.958	53.994	0.292	10.602	0.069	0.274	22.604	0.078	0.075	99.009	5.799	17.386	99.590
MacFad-1 -20	0.025	1.16	0.008	0	4.220	55.205	0.327	8.761	0.032	0.532	28.753	0.190	0.232	99.443	9.781	19.952	100.423
MacFad-1 -21	0.056	0	0	0	14.731	52.854	0.403	11.300	0.042	0.183	20.109	0.109	0.164	99.950	3.054	17.361	100.256
MacFad-1 -22	0.14	0.18	0.036	0	9.502	57.282	0.350	11.362	0.000	0.399	20.785	0.063	0.048	100.146	4.501	16.734	100.597
MacFad-1 -23	0.124	0.242	0.028	0	9.595	56.890	0.266	11.049	0.012	0.210	21.491	0.081	0.218	100.207	4.821	17.153	100.690
MacFad-1 -24	0.088	0.096	0	0	9.196	56.977	0.221	10.069	0.000	0.446	22.344	0.035	0.133	99.605	4.806	18.020	100.087
MacFad-1 -25	0.028	1.145	0.045	0.0338	7.515	56.493	0.136	10.611	0.023	0.252	22.908	0.132	0.147	99.467	5.731	17.751	100.041
MacFad-1 -26	0.035	0.281	0	0	7.272	55.232	0.181	9.563	0.047	0.413	25.842	0.130	0.098	99.093	8.340	18.338	99.928
MacFad-1 -27	0.074	0.659	0	0.0081	8.264	56.475	0.213	10.568	0.034	0.334	23.110	0.100	0.000	99.837	5.882	17.817	100.427
MacFad-1 -28	0.037	0.718	0.005	0.0142	8.488	57.344	0.284	10.161	0.060	0.157	22.788	0.123	0.005	100.184	4.428	18.803	100.628
MacFad-1 -29	0.063	3.864	0.022	0.0127	2.574	48.748	0.576	8.195	0.068	0.342	33.496	0.127	0.219	98.306	11.294	23.334	99.438
MacFad-1 -30	0.1	1.979	0	0.0147	4.782	57.906	0.443	11.156	0.008	0.260	22.140	0.177	0.056	99.019	4.989	17.651	99.518
MacFad-1 -31	0.017	0.353	0.041	0	9.408	57.344	0.443	10.537	0.048	0.246	21.156	0.028	0.200	99.821	3.508	17.999	100.173
MacFad-1 -32	0.051	3.326	0	0	4.359	54.405	0.504	10.845	0.000	0.410	26.145	0.187	0.045	100.276	7.276	19.597	101.005
MacFad-1 -33	0.047	0.358	0	0	8.785	56.792	0.245	10.983	0.000	0.183	21.947	0.084	0.272	99.695	5.599	16.909	100.256
MacFad-1 -34	0.027	0.198	0.019	0	10.640	58.328	0.353	11.205	0.050	0.098	19.186	0.065	0.147	100.315	2.230	17.179	100.539
MacFad-1 -35	0.018	0.338	0.03	0	9.552	56.753	0.283	10.650	0.055	0.560	21.335	0.088	0.160	99.821	4.544	17.246	100.276
MacFad-1 -36	0.018	1.296	0.056	0	6.703	59.235	0.181	9.580	0.034	0.253	22.027	0.165	0.085	99.632	2.914	19.405	99.924
MacFad-1 -37	0.005	0	0	0.002	11.791	58.376	0.477	11.380	0.020	0.305	17.368	0.134	0.078	99.935	0.698	16.739	100.005
MacFad-1 -38	0.045	1.009	0.005	0.0345	7.774	54.817	0.132	10.789	0.042	0.397	23.698	0.149	0.152	99.044	7.360	17.076	99.781
MacFad-1 -39	0.081	1.473	0.001	0	6.016	52.817	0.417	8.317	0.007	0.731	29.433	0.190	0.108	99.589	8.951	21.378	100.486
MacFad-1 -40	0.025	0.628	0.014	0	9.639	56.026	0.321	10.764	0.050	0.262	21.546	0.121	0.171	99.566	4.405	17.582	100.007
MacFad-1 -41	0.027	0	0	0	10.098	56.237	0.460	10.111	0.025	0.114	22.464	0.084	0.123	99.743	4.286	18.608	100.173
MacFad-1 -42	0.06	0.132	0	0	11.898	55.014	0.186	11.347	0.058	0.154	20.165	0.116	0.091	99.221	4.095	16.481	99.632
MacFad-1 -43	0.078	3.087	0	0	4.607	55.867	0.521	10.631	0.004	0.333	25.146	0.139	0.061	100.474	5.772	19.952	101.052
MacFad-1 -44	0.022	0.083	0	0	11.706	54.491	0.335	10.918	0.076	0.399	21.576	0.092	0.128	99.826	4.890	17.176	100.316
MacFad-1 -45	0.031	0.893	0.021	0	9.326	58.943	0.166	10.942	0.048	0.105	19.065	0.126	0.197	99.863	1.793	17.452	100.043
MacFad-1 -46	0.017	1.144	0	0.0201	5.757	55.253	0.199	8.854	0.003	0.394	27.530	0.157	0.162	99.490	8.269	20.089	100.318
MacFad-1 -47	0.052	0	0	0.057	9.610	57.547	0.356	10.803	0.021	0.292	21.115	0.116	0.176	100.144	4.307	17.240	100.576
MacFad-1 -48	0.048	0.611	0.045	0.0304	8.701	54.547	0.237	9.650	0.052	0.539	25.049	0.165	0.122	99.796	6.832	18.901	100.481
MacFad-1 -49	0.014	0.35	0	0	9.652	58.294	0.172	11.428	0.091	0.442	19.556	0.112	0.099	100.210	3.842	16.098	100.595
MacFad-1 -50	0.171	3.161	0.003	0.0323	4.186	50.643	0.460	10.243	0.009	0.263	30.262	0.217	0.024	99.672	10.914	20.441	100.766
MacFad-1 -51	0.026	1.306	0.039	0	3.681	59.115	0.085	9.134	0.000	0.282	25.735	0.083	0.077	99.563	6.808	19.609	100.245
MacFad-1 -52	0.021	0.365	0.029	0	7.164	56.156	0.254	9.320	0.029	0.421	25.357	0.189	0.119	99.424	7.157	18.917	100.141
MacFad-1 -53	0	1.024	0	0.034	3.177	58.712	0.233	9.264	0.032	0.430	26.126	0.120	0.082	99.233	7.990	18.937	100.034
MacFad-1 -54	0.023	0.981	0	0.0228	5.776	57.147	0.108	9.121	0.029	0.441	25.760	0.080	0.072	99.562	6.974	19.485	100.260
MacFad-1 -55	0.027	0.346	0.003	0.0047	9.436	57.165	0.251	10.928	0.009	0.240	21.476	0.093	0.176	100.154	4.732	17.218	100.628
MacFad-1 -56	0.032	0.219	0.027	0.0156	9.125	58.132	0.277	10.699	0.026	0.276	20.612	0.130	0.179	99.749	3.749	17.239	100.125
MacFad-1 -57	0.025	0.058	0	0.0468	15.464	53.998	0.318	11.311	0.057	0.259	18.604	0.018	0.371	100.530	1.425	17.322	100.673
MacFad-1 -58	0.053	0.299	0	0.0431	6.720	55.107	0.281	9.619	0.065	0.542	26.608	0.080	0.056	99.474	9.063	18.453	100.382
MacFad-1 -59	0.113	0.162	0	0.021	9.429	57.430	0.378	10.673	0.094	0.336	21.152	0.105	0.232	100.125	4.091	17.471	100.535
MacFad-1 -60	0.005	1.499	0.024	0.0532	6.057	50.933	0.227	8.888	0.074	0.262	30.730	0.176	0.209	99.138	11.483	20.397	100.288
MacFad-1 -61	0.049	0.615	0	0.0102	9.784	56.541	0.120	10.670	0.000	0.476	21.954	0.123	0.075	100.415	4.778	17.655	100.893
MacFad-1 -62	0.043	0.502	0.001	0	8.833	56.832	0.195	10.879	0.018	0.389	21.364	0.091	0.149	99.296	5.005	16.860	99.797
MacFad-1 -63	0.089	0.077	0	0	9.602	56.974	0.394	10.510	0.096	0.018	22.053	0.069	0.077	99.958	4.387	18.106	100.398

MacFadyen-1 Chromite

Sample	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MacFad-1 -64	0.029	0.471	0.031	0	4.005	55.933	0.419	8.921	0.025	0.592	28.261	0.087	0.201	98.974	10.118	19.156	99.988
MacFad-1 -65	0.015	0.008	0	0.0633	11.624	58.272	0.331	11.240	0.048	0.205	17.949	0.009	0.096	99.861	1.163	16.902	99.977
MacFad-1 -66	0.034	0.098	0.032	0.0244	9.352	57.183	0.229	11.084	0.039	0.334	20.899	0.025	0.061	99.395	4.829	16.554	99.878
MacFad-1 -67	0.038	1.252	0	0	6.107	59.448	0.289	11.452	0.078	0.362	20.796	0.091	0.176	100.087	4.719	16.550	100.559
MacFad-1 -68	0.024	1.228	0.015	0	5.659	54.693	0.207	8.945	0.027	0.399	27.644	0.189	0.141	99.169	8.612	19.894	100.032
MacFad-1 -69	0.027	0.855	0.008	0.0176	8.983	56.216	0.179	11.212	0.055	0.082	21.467	0.130	0.123	99.353	5.039	16.933	99.858
MacFad-1 -70	0.038	0.191	0	0.0644	9.494	55.111	0.244	9.460	0.063	0.515	24.219	0.081	0.279	99.759	5.990	18.829	100.359
MacFad-1 -71	0.018	1.597	0	0	1.244	61.592	0.311	8.530	0.077	0.486	25.970	0.097	0.011	99.933	6.002	20.569	100.534
MacFad-1 -72	0.026	2.641	0	0	2.271	54.852	0.579	9.432	0.031	0.265	29.089	0.166	0.098	99.449	9.271	20.747	100.378
MacFad-1 -73	0.031	0.101	0	0	8.661	57.034	0.302	10.821	0.025	0.261	22.771	0.116	0.109	100.232	6.226	17.168	100.855
MacFad-1 -74	0.032	3.028	0.036	0	2.560	50.282	0.600	8.243	0.000	0.394	33.295	0.185	0.106	98.760	11.733	22.737	99.935
MacFad-1 -75	0.039	2.39	0.013	0.0356	4.559	53.853	0.342	9.712	0.063	0.386	28.062	0.189	0.098	99.741	8.921	20.035	100.635
MacFad-1 -76	0.051	0.148	0	0	11.208	56.159	0.271	11.815	0.032	0.324	20.195	0.107	0.131	100.441	4.635	16.025	100.905
MacFad-1 -78	0.068	2.587	0.027	0.0054	4.589	53.024	0.421	9.662	0.052	0.282	28.463	0.093	0.111	99.384	8.810	20.536	100.266
MacFad-1 -79	0.02	2.57	0.02	0	2.772	54.485	0.597	9.489	0.031	0.385	28.710	0.199	0.000	99.278	9.021	20.593	100.182
MacFad-1 -80	0.028	0.143	0.004	0.0075	10.475	59.630	0.373	11.413	0.041	0.228	17.358	0.111	0.182	99.993	0.970	16.486	100.090
MacFad-1 -81	0.035	0.092	0.004	0.0143	10.114	60.397	0.237	11.332	0.048	0.294	17.594	0.055	0.144	100.359	1.279	16.443	100.487
MacFad-1 -82	0.03	0.738	0	0	7.389	56.394	0.273	10.339	0.072	0.429	23.807	0.144	0.274	99.886	6.759	17.725	100.564
MacFad-1 -83	0.017	0.011	0.02	0	14.711	54.271	0.226	11.567	0.042	0.310	18.348	0.099	0.151	99.772	2.087	16.470	99.981
MacFad-1 -84	0.018	2.969	0.02	0	2.436	51.540	0.614	8.459	0.034	0.486	32.822	0.211	0.127	99.734	11.522	22.455	100.888
MacFad-1 -85	0.019	0.608	0.041	0	6.334	55.993	0.327	9.273	0.043	0.559	26.130	0.073	0.204	99.604	7.764	19.144	100.382
MacFad-1 -86	0.04	0.25	0.024	0.0312	8.816	57.871	0.392	11.176	0.000	0.292	20.914	0.090	0.091	99.986	4.460	16.901	100.433
MacFad-1 -87	0.061	0.418	0.019	0	9.090	57.337	0.322	10.620	0.042	0.290	21.950	0.068	0.149	100.367	4.511	17.891	100.819
MacFad-1 -88	0.044	0.461	0	0	8.987	56.348	0.248	10.043	0.047	0.279	23.504	0.100	0.077	100.137	5.425	18.622	100.680
MacFad-1 -89	0.031	0.538	0	0	10.817	58.424	0.249	11.566	0.011	0.229	17.816	0.056	0.198	99.935	1.435	16.525	100.078
MacFad-1 -90	0.027	1.305	0	0	8.340	54.962	0.216	10.599	0.059	0.229	24.001	0.137	0.080	99.954	6.324	18.310	100.588
MacFad-1 -91	0.026	0.393	0.012	0	8.951	56.752	0.290	11.025	0.024	0.298	21.336	0.132	0.112	99.350	5.050	16.791	99.856
MacFad-1 -92	0.049	0.347	0	0	8.430	57.620	0.330	11.071	0.070	0.337	21.421	0.060	0.189	99.923	5.169	16.769	100.441
MacFad-1 -93	0.078	2.606	0.014	0.0327	3.159	57.776	0.530	10.637	0.072	0.378	24.263	0.166	0.119	99.830	5.942	18.916	100.426
MacFad-1 -94	0.046	0.255	0.018	0	5.931	56.776	0.434	8.917	0.010	0.401	26.337	0.084	0.191	99.399	7.467	19.618	100.147
MacFad-1 -95	0	0.021	0.012	0	11.318	55.839	0.239	11.281	0.061	0.087	20.797	0.023	0.083	99.760	4.499	16.748	100.211
MacFad-1 -96	0.013	0.276	0	0	8.572	57.557	0.256	10.779	0.050	0.126	22.431	0.061	0.163	100.284	5.595	17.396	100.845
MacFad-1 -97	0.01	0.84	0	0	9.239	55.654	0.206	10.599	0.020	0.267	22.595	0.117	0.296	99.843	5.358	17.774	100.380
MacFad-1 -98	0.024	0.124	0.003	0	8.736	57.632	0.397	10.522	0.026	0.300	22.618	0.119	0.160	100.660	5.321	17.830	101.193
MacFad-1 -99	0.065	3.043	0.01	0	4.708	54.622	0.504	10.680	0.055	0.338	25.365	0.168	0.226	99.783	6.664	19.369	100.451
MacFad-1 -1*	0.036	0.377	0.038	0.0069	17.779	50.046	0.283	11.451	0.052	0.417	19.008	0.033	0.281	99.807	1.757	17.427	99.983
MacFad-1 -2*	0.03	2.749	0.015	0.0325	2.552	53.881	0.626	9.133	0.000	0.303	29.222	0.218	0.168	98.931	8.953	21.167	99.828
MacFad-1 -3*	0	0.974	0.006	0.0363	8.902	57.503	0.338	10.723	0.002	0.226	20.915	0.075	0.119	99.819	3.141	18.089	100.133
MacFad-1 -4*	0.002	0.852	0	0.0175	9.663	55.986	0.198	10.749	0.027	0.416	21.579	0.080	0.238	99.807	4.519	17.513	100.260
MacFad-1 -5*	0.018	0.773	0.014	0	8.548	55.287	0.298	10.202	0.086	0.279	23.933	0.096	0.153	99.686	6.147	18.402	100.302
MacFad-1 -6*	0.02	1.172	0	0.0094	7.802	56.069	0.183	10.783	0.068	0.258	22.931	0.150	0.222	99.666	6.048	17.489	100.272
MacFad-1 -7*	0.024	1.102	0.046	0.0339	5.444	57.695	0.351	9.773	0.045	0.412	24.466	0.049	0.079	99.518	6.100	18.978	100.129
MacFad-1 -8*	0.025	1.502	0.006	0.0107	6.449	56.982	0.263	10.609	0.035	0.227	23.032	0.200	0.082	99.423	5.548	18.040	99.979
MacFad-1 -9*	0.026	2.01	0.029	0.0277	9.029	42.004	0.285	7.833	0.000	0.468	36.901	0.233	0.011	98.855	15.411	23.034	100.399
MacFad-1 -10*	0.014	0.217	0	0.0027	8.710	57.086	0.364	10.563	0.021	0.329	21.966	0.087	0.212	99.572	5.088	17.388	100.081
MacFad-1 -11*	0.034	3.293	0.014	0.0007	3.574	54.564	0.538	10.176	0.000	0.319	26.905	0.175	0.087	99.681	7.247	20.385	100.407
MacFad-1 -12*	0.039	0.055	0	0	10.408	57.751	0.210	11.617	0.040	0.065	18.993	0.152	0.133	99.464	3.461	15.879	99.811
MacFad-1 -14*	0.07	3.565	0	0	1.633	43.339	0.879	7.144	0.003	0.582	40.536	0.151	0.170	98.071	17.419	24.862	99.817
MacFad-1 -15*	0.059	0.256	0.001	0.0054	11.295	55.414	0.247	11.671	0.000	0.431	20.515	0.005	0.194	100.092	4.803	16.193	100.573
MacFad-1 -16*	0.053	0.463	0	0	7.619	58.013	0.366	11.120	0.028	0.384	21.242	0.123	0.111	99.522	5.143	16.614	100.037
MacFad-1 -17*	0.032	2.815	0.021	0	2.271	52.337	0.645	8.761	0.008	0.436	31.370	0.218	0.060	98.975	10.668	21.771	100.043
MacFad-1 -18*	0.045	0.003	0	0.0142	11.118	58.882	0.272	11.829	0.009	0.350	17.345	0.054	0.183	100.104	1.820	15.708	100.286
MacFad-1 -19*	0.025	0.613	0.013	0.0297	10.018	57.681	0.168	11.518	0.062	0.236	19.289	0.100	0.141	99.892	3.219	16.392	100.214
MacFad-1 -20*	0.033	0.917	0.024	0.0067	9.745	56.198	0.346	11.104	0.000	0.304	20.945	0.181	0.151	99.955	3.838	17.492	100.339
MacFad-1 -21*	0.004	0.022	0.01	0	11.215	56.376	0.374	11.066	0.000	0.185	20.250	0.066	0.119	99.689	3.464	17.134	100.036
MacFad-1 -22*	0.011	0.944	0	0	5.916	59.259	0.219	10.733	0.014	0.297	21.907	0.132	0.000	99.432	5.164	17.260	99.949
MacFad-1 -23*	0.026	0.806	0.013	0	9.218	56.318	0.309	10.946	0.034	0.226	21.570	0.075	0.236	99.777	4.537	17.488	100.231
MacFad-1 -24*	0.075	3.118	0.02	0	1.919	50.061	0.668	8.309	0.072	0.478	34.510	0.260	0.191	99.682	13.060	22.759	100.990
MacFad-1 -25*	0.04	0.724	0.017	0.0405	9.106	56.414	0.336	11.511	0.038	0.134	20.803	0.096	0.090	99.349	4.585	16.678	99.808
MacFad-1 -26*	0.04	0.263	0.014	0	9.468	57.726	0.258	11.138	0.014	0.016	19.950	0.059	0.109	99.054	3.497	16.803	99.404
MacFad-1 -27*	0.029	1.741	0.023	0	3.547	55.616	0.336	9.333	0.076	0.293	27.316	0.159	0.058	98.526	8.585	19.591	99.386
MacFad-1 -28*	0.024	1.531	0.013	0	7.359	55.684	0.146	10.581	0.043	0.193	23.638	0.135	0.095	99.442	6.084	18.164	100.052
MacFad-1 -29*	0.017	0.226	0.092	0	9.374	57.790	0.209	10.586	0.039	0.355	21.265	0.044	0.056	100.050	4.083	17.591	100.459

MacFadyen-1 Chromite

Sample	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
MacFad-1 -30*	0.039	0.533	0	0	6.472	56.046	0.273	9.269	0.040	0.279	26.611	0.073	0.084	99.719	7.966	19.443	100.517
MacFad-1 -31*	0.012	0.449	0.005	0	9.986	56.285	0.321	11.048	0.053	0.410	20.199	0.100	0.127	98.995	3.856	16.729	99.381
MacFad-1 -32*	0.056	0.215	0.027	0	9.965	59.410	0.357	10.464	0.046	0.218	18.384	0.071	0.172	99.385	0.647	17.802	99.450
MacFad-1 -33*	0.017	1.642	0.018	0	7.959	51.182	0.110	9.468	0.055	0.507	28.070	0.132	0.224	99.384	9.424	19.590	100.328
MacFad-1 -34*	0.026	0.203	0	0	12.363	57.552	0.219	11.818	0.058	0.213	17.344	0.028	0.130	99.953	1.398	16.085	100.093
MacFad-1 -36*	0.061	0.612	0.022	0	7.832	55.876	0.292	10.483	0.001	0.436	23.878	0.070	0.103	99.666	6.768	17.788	100.344
MacFad-1 -37*	0.051	0.334	0.033	0	8.520	58.457	0.240	10.990	0.030	0.242	20.788	0.085	0.029	99.800	4.209	17.001	100.222
MacFad-1 -38*	0.057	1.253	0.015	0.0291	3.178	61.313	0.318	10.447	0.015	0.166	23.079	0.132	0.158	100.159	5.631	18.012	100.724
MacFad-1 -39*	0.038	0.26	0	0.0135	10.596	57.459	0.312	10.988	0.044	0.172	19.153	0.107	0.151	99.293	2.324	17.061	99.526
MacFad-1 -41*	0.04	1.691	0	0	5.357	53.250	0.253	8.340	0.041	0.452	28.817	0.121	0.168	98.530	8.649	21.034	99.396
MacFad-1 -42*	0.04	0	0.05	0.0208	8.521	54.704	0.317	9.890	0.023	0.248	25.069	0.129	0.037	99.047	7.543	18.282	99.803
MacFad-1 -43*	0.034	2.484	0	0	2.111	53.819	0.600	8.889	0.026	0.530	29.869	0.168	0.102	98.631	9.927	20.937	99.625
MacFad-1 -44*	0.005	2.71	0	0.0152	1.419	50.361	0.712	7.700	0.009	0.316	35.623	0.165	0.081	99.115	13.509	23.468	100.469
MacFad-1 -45*	0.049	3.238	0.016	0	4.862	54.363	0.291	10.682	0.008	0.375	25.832	0.129	0.068	99.914	7.071	19.470	100.622
MacFad-1 -47*	0.017	0.038	0	0	9.831	57.332	0.280	10.835	0.072	0.033	21.051	0.146	0.178	99.813	4.350	17.137	100.249
MacFad-1 -48*	0.017	0.301	0	0.0027	9.176	56.381	0.260	10.545	0.000	0.591	22.267	0.047	0.172	99.758	5.507	17.311	100.310
MacFad-1 -49*	0.023	0.319	0	0.0007	9.317	57.817	0.297	11.543	0.029	0.225	19.568	0.099	0.000	99.238	3.822	16.129	99.620
MacFad-1 -50*	0.077	1.78	0	0.0535	6.026	56.636	0.299	10.922	0.048	0.147	23.438	0.164	0.182	99.771	6.033	18.009	100.376
MacFad-1 -51*	0.021	0.404	0	0.0424	9.392	59.472	0.316	11.432	0.036	0.381	18.136	0.164	0.037	99.833	2.002	16.335	100.034
MacFad-1 -52*	0.03	1.378	0.057	0	4.152	58.676	0.212	8.641	0.000	0.412	25.167	0.086	0.039	98.849	5.334	20.367	99.383
MacFad-1 -53*	0.017	0.42	0.006	0.0244	12.112	58.365	0.225	12.273	0.008	0.179	16.233	0.077	0.008	99.948	0.588	15.704	100.006
MacFad-1 -54*	0.007	0.146	0	0	9.456	56.238	0.335	10.560	0.026	0.282	22.486	0.084	0.172	99.792	5.486	17.550	100.342
MacFad-1 -55*	0.028	0.255	0	0	9.850	57.510	0.229	11.275	0.047	0.363	20.338	0.078	0.140	100.113	4.279	16.488	100.542
MacFad-1 -57*	0.024	0.82	0.005	0	5.512	50.987	0.406	8.633	0.028	0.356	31.866	0.163	0.129	98.928	12.794	20.354	100.209
MacFad-1 -58*	0.033	0.789	0	0.0525	8.758	56.436	0.185	11.308	0.037	0.395	21.066	0.098	0.111	99.269	5.142	16.439	99.784
MacFad-1 -59*	0.03	0.228	0.006	0.0228	10.178	60.100	0.363	10.417	0.025	0.377	17.570	0.082	0.175	99.573	0.000	17.570	99.573
MacFad-1 -60*	0.051	1.313	0.035	0	3.103	59.334	0.231	9.145	0.032	0.342	25.927	0.138	0.233	99.884	7.061	19.573	100.592
MacFad-1 -61*	0.017	1.499	0.031	0.0503	9.151	57.315	0.351	9.492	0.071	0.134	21.892	0.137	0.082	100.220	1.389	20.641	100.359
MacFad-1 -62*	0.037	0.033	0.009	0.0094	9.414	57.396	0.245	10.521	0.036	0.349	21.298	0.011	0.130	99.487	4.413	17.327	99.929
MacFad-1 -63*	0.029	0.601	0.018	0.0283	10.487	60.012	0.353	12.109	0.031	0.420	16.405	0.004	0.165	100.660	0.483	15.970	100.709
MacFad-1 -64*	0.023	0.523	0	0	9.520	56.009	0.277	11.243	0.007	0.278	21.432	0.082	0.172	99.564	5.219	16.735	100.087
MacFad-1 -65*	0.03	0.363	0	0	9.242	59.902	0.353	11.253	0.024	0.400	17.837	0.077	0.050	99.532	1.422	16.558	99.674
MacFad-1 -66*	0.012	1.377	0.006	0	8.524	54.175	0.223	10.208	0.053	0.271	24.887	0.144	0.090	99.970	6.588	18.959	100.630
MacFad-1 -67*	0.048	3.169	0.003	0	2.571	50.628	0.432	8.673	0.034	0.432	32.915	0.100	0.031	99.036	12.018	22.101	100.240
MacFad-1 -68*	0.03	0	0	0.0067	10.990	59.591	0.495	11.187	0.007	0.177	17.289	0.023	0.186	99.981	0.176	17.130	99.999
MacFad-1 -70*	0.036	0.328	0.037	0	10.315	60.015	0.227	11.791	0.022	0.495	16.613	0.077	0.096	100.051	0.964	15.746	100.147
MacFad-1 -71*	0.012	3.155	0.023	0.002	2.825	52.665	0.522	9.101	0.047	0.333	30.596	0.147	0.144	99.572	9.932	21.660	100.567
MacFad-1 -72*	0.046	0.056	0.045	0.0345	11.650	59.245	0.243	11.787	0.086	0.261	17.121	0.049	0.152	100.774	1.084	16.146	100.882
MacFad-1 -75*	0.029	1.722	0	0.0119	2.863	58.917	0.170	9.159	0.014	0.290	26.768	0.204	0.089	100.237	7.531	19.992	100.991
MacFad-1 -76*	0.036	0.028	0	0	14.827	53.021	0.327	11.774	0.067	0.233	19.840	0.124	0.251	100.528	3.654	16.552	100.894
MacFad-1 -77*	0.023	2.155	0	0.002	3.848	53.494	0.444	9.089	0.000	0.082	29.552	0.153	0.103	98.944	9.566	20.945	99.903
MacFad-1 -78*	0.039	0.05	0	0	9.669	55.030	0.241	10.109	0.069	0.542	24.372	0.066	0.175	100.360	7.089	17.993	101.071
MacFad-1 -79*	0	0.201	0.015	0.0554	10.806	57.692	0.365	11.234	0.035	0.208	18.948	0.037	0.136	99.732	2.246	16.927	99.957
MacFad-1 -81*	0.025	2.152	0.01	0	2.659	50.985	0.344	7.734	0.096	0.511	34.378	0.232	0.047	99.172	13.478	22.251	100.523
MacFad-1 -82*	0.018	2.914	0	0	2.545	53.150	0.590	9.022	0.005	0.395	30.570	0.202	0.207	99.618	10.076	21.503	100.627
MacFad-1 -83*	0.026	3.238	0	0.0007	1.484	45.706	0.713	6.972	0.011	0.569	39.470	0.228	0.063	98.478	16.487	24.634	100.130
MacFad-1 -84*	0.029	0.478	0.004	0	8.884	47.354	0.206	8.433	0.061	0.390	32.684	0.153	0.174	98.848	13.586	20.459	100.209
MacFad-1 -85*	0.015	0.302	0.006	0	8.895	57.263	0.197	10.810	0.003	0.319	21.923	0.115	0.180	100.028	5.419	17.047	100.571
MacFad-1 -86*	0.011	0.038	0	0.0197	11.295	54.953	0.338	10.997	0.042	0.386	21.012	0.098	0.104	99.292	4.635	16.842	99.757
MacFad-1 -87*	0.025	0.076	0	0	9.488	57.563	0.353	10.852	0.022	0.365	21.134	0.110	0.164	100.152	4.485	17.098	100.601
MacFad-1 -88*	0.023	0.474	0	0.0142	10.153	56.005	0.256	11.422	0.000	0.287	20.895	0.122	0.106	99.757	4.810	16.567	100.239
MacFad-1 -89*	0.026	0.242	0	0.0476	12.867	54.868	0.194	11.472	0.059	0.281	19.137	0.114	0.205	99.513	3.069	16.376	99.820
MacFad-1 -90*	0.016	3.729	0	0	1.726	42.711	0.951	7.069	0.068	0.380	41.470	0.236	0.164	98.520	17.879	25.382	100.312
MacFad-1 -91*	0.026	0.015	0.019	0	10.533	57.267	0.434	10.704	0.000	0.464	20.461	0.098	0.180	100.199	3.291	17.500	100.529
MacFad-1 -92*	0.034	1.239	0	0.0269	8.122	52.766	0.438	9.397	0.030	0.215	27.626	0.109	0.153	100.155	7.892	20.525	100.946
MacFad-1 -93*	0.011	3.415	0	0	2.231	48.812	0.564	8.077	0.022	0.378	34.956	0.247	0.076	98.787	13.109	23.160	100.101
MacFad-1 -94*	3E-04	0.166	0.013	0	8.815	57.556	0.239	10.869	0.004	0.202	21.526	0.120	0.048	99.558	5.085	16.951	100.067
MacFad-1 -95*	0.037	0.728	0	0	10.411	58.202	0.183	11.001	0.000	0.243	18.771	0.115	0.210	99.901	1.606	17.326	100.062
MacFad-1 -96*	0.034	0.56	0.004	0	8.463	57.144	0.304	10.748	0.055	0.130	22.436	0.099	0.000	99.977	5.169	17.785	100.495

* These chromite grains were mixed in with the MacFadyen-1 ilmenite analyses

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
MacFad-1 -13	core	0.026	49.52	0.5493	0.052	0.104	4.728	0.26	11.92	0.008	0.416	31.3	0.29	0	99.18	8.5	23.65	100.03	48.493	43.619	7.888	100
MacFad-1 -40	core	0.013	49.13	0.2379	0	0.193	4.554	0.47	11.04	0.032	0.335	32.53	0.19	0	98.72	8.411	24.96	99.56	51.552	40.631	7.817	100
MacFad-1 -56	core	0.041	48.65	0.1872	0.028	0.144	4.711	0.44	10.87	0	0.362	32.8	0.14	0.01	98.39	8.855	24.83	99.277	51.511	40.200	8.288	100
MacFad-1 -69	core	0.012	49.22	0.1464	0.033	0.249	6.449	0.14	11.47	0	0.236	31.46	0.2	0.03	99.64	8.532	23.78	100.5	49.447	42.542	8.011	100
MacFad-1 -73	core	0.006	50.5	0.5087	0.09	0.001	4.991	0.1	12.44	0.033	0.402	29.87	0.21	0.02	99.18	7.26	23.34	99.911	47.759	45.481	6.760	100
MacFad-1 -74	core	0.018	49.4	0.2208	0.045	0.117	4.623	0.24	11.29	0	0.266	32.85	0.14	0.11	99.31	9.311	24.47	100.25	50.112	41.268	8.620	100
MacFad-1 -80	core	0.033	48.97	0.1874	0.002	0.267	6.414	0.42	11.54	0.006	0.265	31.32	0.14	0	99.57	8.18	23.96	100.39	49.701	42.663	7.635	100

MacFadyen-1 Pyroxene

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
MacFadyen-1 -1	55.1	0.08	2.209	3.542	15.7	18.7	0.08	2.37	0.1	2.655	0	101
MacFadyen-1 -2	55	0.21	2.102	2.327	16.2	19.4	0.11	2.37	0	2.217	0	99.9

MacFadyen-1 Olivine

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
MacFadyen-1 -1	41.204	0	0.0445	0.0126	49.803	0.018	0.1244	8.933	0.312	0	0.007	100.46
MacFadyen-1 -2	40.963	0	0.0356	0.0041	49.777	0	0.1033	8.713	0.422	0.0051	0	100.02
MacFadyen-1 -3	40.904	0.0024	0	0.0164	49.497	0	0.1343	8.714	0.429	0.0098	0.01	99.716
MacFadyen-1 -4	41.088	0.0208	0	0.016	51.074	0	0.1148	7.141	0.414	0.005	0.002	99.874
MacFadyen-1 -5	41.008	0.0231	0	0.0134	49.806	0.016	0.1543	8.357	0.355	0	0	99.733
MacFadyen-1 -6	41.01	0.0419	0	0.0372	49.882	0.073	0.1556	8.554	0.438	0.0121	0	100.2
MacFadyen-1 -7	41.534	0.0061	0	0	50.954	0	0.1006	7.415	0.348	0.0012	0.025	100.38
MacFadyen-1 -8	41.546	0.0118	0.012	0.0042	51.078	0.024	0.1148	7.16	0.335	0.006	0	100.29
MacFadyen-1 -9	41.206	0.0057	0	0.0369	51.262	0.024	0.1149	6.887	0.396	0.0015	0	99.935
MacFadyen-1 -10	41.264	0.0118	0	0	49.948	0	0.1344	8.39	0.392	0	0.023	100.16
MacFadyen-1 -11	41.107	0.024	0	0.0311	49.802	0.024	0.0779	8.359	0.373	0.001	0.01	99.809
MacFadyen-1 -12	41.385	0.0199	0	0.0313	50.738	0.021	0.0695	7.306	0.356	0.0172	0	99.944
MacFadyen-1 -13	40.686	0.015	0.02	0.0219	48.869	0	0.1201	9.95	0.266	0.005	0	99.953
MacFadyen-1 -14	40.619	0.0367	0.0014	0.0208	48.588	0.017	0.1498	9.866	0.277	0.0077	0	99.583

Six-Pak Garnet

Sample	Colour	SiO_2	TiO_2	Al_2O_3	Cr_2O_3	MgO	CaO	MnO	FeO	NiO	Na_2O	K_2O	Total
Six-Pak -1	purple	41.414	0.1573	19.5435	5.4602	20.197	5.658	0.3595	7.069	0	0.0312	0.012	99.901
Six-Pak -2	purple	41.317	0.3001	19.9406	4.9454	19.767	5.935	0.482	7.518	0	0.036	0	100.24
Six-Pak -3	purple	41.429	0.0962	19.8775	5.4242	19.547	6.067	0.438	7.487	0.004	0.0183	0.017	100.41
Six-Pak -5	purple	41.785	0.1537	20.8288	3.8516	20.429	5.296	0.4228	7.61	0	0.0246	0	100.4
Six-Pak -6	purple	41.819	0.2287	21.0902	3.6038	20.592	5.002	0.347	7.333	0	0.0321	0	100.05
Six-Pak -7	purple	42.166	0.066	21.9687	2.5023	20.405	4.884	0.3825	7.815	0.004	0.0204	0	100.21
Six-Pak -8	purple	41.647	0.1463	20.1537	5.111	20.064	5.568	0.4125	7.426	0	0.0167	0.008	100.55
Six-Pak -9	purple	41.154	0.148	19.5256	5.6397	19.467	5.845	0.4331	7.589	0	0.0326	0.008	99.842
Six-Pak -10	purple	41.735	0.116	20.769	4.104	19.536	5.837	0.3972	7.826	0.024	0.0233	0	100.37
Six-Pak -11	purple	41.621	0.2336	19.9692	5.2859	19.714	5.797	0.3928	7.262	0.05	0.0418	0	100.37
Six-Pak -12	purple	41.151	0.0328	19.4024	5.9776	19.031	6.343	0.4204	7.586	0.019	0.0086	0.025	99.997
Six-Pak -13	purple	41.461	0.2773	20.1173	4.9069	19.906	5.743	0.4153	7.389	0.015	0.0285	0	100.26
Six-Pak -14	purple	41.574	0.1747	19.3516	6.0675	19.896	5.622	0.3954	7.031	0.018	0.0242	0	100.15
Six-Pak -15	purple	41.662	0.1094	20.5366	4.3811	19.84	5.49	0.3577	7.799	0	0.0134	0	100.19
Six-Pak -16	purple	41.615	0.2458	21.561	3.25	19.966	5.121	0.4171	8.127	0.034	0.0292	0	100.37
Six-Pak -17	purple	41.488	0.1067	19.2383	6.3223	20.42	5.22	0.4347	6.927	0	0.0327	0	100.19
Six-Pak -18	purple	41.647	0.1982	20.0324	5.0019	20.285	5.547	0.3987	6.846	0	0.0372	0	99.992
Six-Pak -19	purple	41.484	0.0276	19.7049	5.7609	18.872	6.563	0.4639	7.823	0.007	0	0	100.7
Six-Pak -20	purple	41.562	0.1856	20.5261	4.1285	20.012	5.509	0.3693	7.501	0	0.0276	0	99.821
Six-Pak -21	purple	41.397	0.3042	20.1875	4.7554	19.803	5.711	0.3816	7.411	0.021	0.0341	0	100
Six-Pak -22	purple	41.848	0.191	20.4532	4.7008	19.918	5.747	0.4617	7.823	0	0.0144	0	101.16
Six-Pak -23	purple	42.317	0.1534	22.0491	3.14	20.951	4.377	0.3695	7.678	0	0.0264	0.008	101.07
Six-Pak -24	purple	42.126	0.2664	20.5777	4.0898	21.087	5.028	0.3273	6.78	0.022	0.0299	0.029	100.36
Six-Pak -25	purple	41.532	0.1793	20.1562	4.9328	19.978	5.861	0.4575	7.485	0	0.0213	0.036	100.64
Six-Pak -26	purple	41.702	0.2572	20.7136	4.3229	21.054	4.916	0.3173	6.834	0.038	0.0353	0.006	100.2
Six-Pak -27	purple	41.45	0.1276	20.3	4.8987	19.238	6.015	0.4207	7.828	0	0.0195	0	100.3
Six-Pak -28	purple	41.92	0.1297	20.4321	4.6517	20.459	5.333	0.3086	7.035	0	0.0328	0	100.3
Six-Pak -29	purple	41.857	0.0179	21.3516	3.4313	19.403	5.708	0.4604	8.698	0	0.0078	0.009	100.94
Six-Pak -30	purple	41.567	0.2682	20.2641	4.4614	19.947	5.443	0.3791	7.966	0.028	0.0383	0.004	100.37
Six-Pak -31	purple	41.832	0.0526	19.8399	5.4503	20.146	5.735	0.3579	6.639	0	0.0247	0.019	100.1
Six-Pak -32	purple	41.761	0.1249	20.6261	4.5926	19.864	5.423	0.3593	7.618	0	0.0105	0.003	100.38
Six-Pak -33	purple	41.723	0.2297	20.4071	4.6167	20.188	5.338	0.4001	7.192	0	0.036	0	100.13
Six-Pak -34	purple	41.79	0.218	20.0559	5.0742	19.538	5.951	0.3953	8.011	0	0.029	0.007	101.07
Six-Pak -35	purple	41.778	0.1035	21.4638	3.1159	20.022	5.391	0.3313	7.996	0	0.0092	9E-04	100.21
Six-Pak -36	purple	42.053	0.1684	21.1054	3.8804	20.622	5.196	0.292	7.299	0.012	0.0306	0	100.66
Six-Pak -37	purple	41.795	0.1091	19.6694	6.2241	20.179	5.816	0.3994	7.068	0.071	0.0335	0.006	101.37
Six-Pak -38	purple	42.02	0.1568	21.7156	3.1329	20.459	5.125	0.3357	7.645	0.057	0.0277	0	100.68
Six-Pak -39	purple	41.429	0.0946	19.2482	6.1394	19.356	6.235	0.4147	7.569	0	0.0171	0	100.5
Six-Pak -40	purple	41.664	0.122	20.4172	4.7988	19.559	5.776	0.3532	7.826	0.021	0.0221	0.006	100.57
Six-Pak -41	purple	41.677	0.1296	20.6313	4.4102	20.052	5.666	0.3873	7.63	0	0.0169	0	100.6
Six-Pak -42	purple	41.199	0.0646	18.9906	6.1751	18.961	6.393	0.4118	7.815	0	0.0111	0	100.02
Six-Pak -43	purple	41.669	0.0865	21.6102	2.9972	19.369	5.532	0.4423	8.659	0.021	0.0126	0	100.4
Six-Pak -44	purple	41.658	0.1648	21.3312	3.1677	20.616	5.169	0.3556	7.449	0	0.0308	0.019	99.959
Six-Pak -45	purple	41.339	0.2467	19.9891	4.5182	19.052	5.336	0.4765	8.82	0	0.0543	0	99.832
Six-Pak -46	purple	41.445	0.1421	20.0753	5.1447	20.021	5.57	0.3632	7.506	0.019	0.0215	1E-04	100.31
Six-Pak -47	purple	41.313	0.1091	19.4619	5.6502	19.142	5.999	0.3979	7.898	0	0.0221	0.013	100.01
Six-Pak -48	purple	41.781	0.2701	21.7546	2.6927	20.395	5.038	0.3528	7.447	0.025	0.0416	0	99.797
Six-Pak -49	purple	41.851	0.2523	21.0006	3.4747	20.418	5.086	0.3612	7.216	0.007	0.0468	0.031	99.744
Six-Pak -50	purple	41.453	0.2214	20.8129	3.4974	19.767	4.892	0.3407	8.811	0.028	0.0474	0.017	99.888
Six-Pak -51	purple	41.048	0.1062	19.1348	6.0671	18.815	6.551	0.4721	8.008	0	0.0136	0	100.22
Six-Pak -52	purple	41.661	0.1474	20.8641	4.0059	19.692	5.28	0.3985	8.195	0.012	0.0299	0	100.29
Six-Pak -53	purple	41.654	0.079	21.9683	2.7051	19.38	5.44	0.448	8.856	0	0.0148	0	100.54
Six-Pak -54	purple	41.492	0.2356	19.5027	5.5528	19.171	6.057	0.4149	7.709	0	0.0402	0.023	100.2
Six-Pak -55	purple	41.822	0.1308	19.8077	5.5684	19.796	5.735	0.3799	7.238	0	0.0289	0.02	100.53
Six-Pak -56	purple	41.619	0.0226	21.2042	3.5405	19.301	5.798	0.4029	8.324	0	0.006	0	100.22
Six-Pak -57	purple	41.509	0.1726	19.5985	5.889	20.284	5.764	0.3266	6.674	0.015	0.0272	0	100.26
Six-Pak -58	purple	41.612	0.1779	19.9918	5.2091	19.628	5.981	0.3634	7.082	0.037	0.0233	0	100.11
Six-Pak -59	purple	41.749	0.0808	20.9499	4.0659	19.548	5.71	0.3789	8.065	0.01	0.0019	0.024	100.58
Six-Pak -60	purple	41.882	0.2041	21.1401	3.5481	19.485	5.719	0.4863	8.488	0.047	0.0163	0.024	101.04

Six-Pak Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Six-Pak -61	purple	41.994	0.167	21.39	3.3572	20.155	5.164	0.3779	7.984	0	0.0269	0	100.62
Six-Pak -62	purple	41.877	0.189	20.6092	4.3336	19.964	5.455	0.3806	7.051	0.062	0.0265	0	99.947
Six-Pak -63	purple	41.356	0.1892	19.1411	6.3275	19.851	5.923	0.3376	6.887	0.018	0.0386	0	100.07
Six-Pak -64	purple	41.706	0.1285	20.0267	5.173	20.056	5.742	0.373	7.636	0	0.0281	0.001	100.87
Six-Pak -65	purple	41.617	0.1413	20.0727	5.0671	19.99	5.583	0.3719	7.222	0	0.0241	0.005	100.09
Six-Pak -66	purple	41.664	0.07	20.05	5.2051	20.568	5.568	0.3424	6.907	0	0.0193	0	100.39
Six-Pak -67	purple	41.671	0.0436	19.3508	6.6882	19.885	6.254	0.3953	6.911	0	0.005	0.009	101.21
Six-Pak -68	purple	41.57	0.2178	20.1869	4.9203	19.867	5.643	0.4224	7.328	0.01	0.0415	0	100.21
Six-Pak -69	purple	41.491	0.1373	19.781	5.3091	19.648	5.832	0.4234	7.715	0.035	0.0239	0	100.4
Six-Pak -70	purple	41.812	0.1706	20.6384	4.0073	20.371	5.318	0.4002	7.624	0	0.0302	0	100.37
Six-Pak -71	purple	42.014	0.2141	21.0389	4.0724	20.627	5.376	0.3625	7.117	0.012	0.0233	0	100.86
Six-Pak -72	purple	41.724	0.1275	21.4101	3.3309	20.166	5.173	0.3638	7.798	0	0.0221	0.001	100.12
Six-Pak -73	purple	41.269	0.0412	19.6396	5.7389	19.275	6.428	0.3686	7.591	0	0.0069	0.013	100.37
Six-Pak -74	purple	41.488	0.2225	19.6203	5.2745	20.435	5.546	0.3522	6.847	0.032	0.0311	0	99.85
Six-Pak -75	purple	41.932	0.2422	21.221	3.8367	20.289	5.467	0.3975	7.654	0.013	0.0311	0	101.08
Six-Pak -76	purple	41.707	0.1048	20.7089	4.291	20.377	5.337	0.4537	7.418	0	0.0244	0	100.42
Six-Pak -77	purple	41.577	0.3293	19.7766	5.3695	19.54	5.906	0.3857	7.255	0	0.0408	0	100.18
Six-Pak -78	purple	41.538	0.2839	20.4041	4.7345	19.888	5.43	0.3759	7.477	0	0.0474	0	100.18
Six-Pak -79	purple	41.704	0.2245	20.6608	4.3575	20.005	5.555	0.4606	7.591	0.012	0.0354	0	100.61
Six-Pak -80	purple	42.17	0.2178	21.9848	2.6265	20.731	4.907	0.3149	7.597	0.021	0.0104	0.033	100.61
Six-Pak -81	purple	41.212	0.0843	20.0394	5.2708	19.287	6.073	0.4164	8.024	0	0.0204	0	100.43
Six-Pak -82	purple	41.856	0.1949	21.634	2.9111	19.857	5.404	0.4484	8.028	0.035	0.0215	0	100.39
Six-Pak -83	purple	41.862	0.0475	22.1435	2.6537	19.727	5.392	0.5132	8.332	0	0.0217	0.024	100.72
Six-Pak -84	purple	41.22	0.2388	19.8442	5.2477	18.704	6.243	0.4765	8.369	0.035	0.0257	0	100.4
Six-Pak -85	purple	41.326	0.0797	19.7545	5.4783	19.29	6.015	0.3925	7.675	0	0.0187	0	100.03
Six-Pak -86	purple	41.165	0.28	19.5497	5.4103	18.23	6.269	0.4129	8.962	0.012	0.0309	0	100.32
Six-Pak -87	purple	41.722	0.0595	19.9623	5.308	19.317	5.952	0.3827	7.976	0.013	0.0175	0	100.71
Six-Pak -88	purple	41.738	0.3394	20.3422	4.3856	19.934	5.625	0.4295	7.761	0	0.0309	0	100.59
Six-Pak -89	purple	41.478	0.2539	20.6986	3.6752	19.504	5.457	0.404	8.507	0.068	0.0309	0	100.08
Six-Pak -90	purple	41.818	0.2294	21.3809	3.1444	19.999	5.078	0.3726	7.927	0.022	0.0298	0	100
Six-Pak -91	purple	41.378	0.2513	19.4788	5.9582	19.391	5.922	0.414	7.36	0	0.0331	0.005	100.19
Six-Pak -92	purple	41.91	0.2063	20.1862	4.7841	21.124	5.449	0.2288	6.527	0.031	0.0214	0	100.47
Six-Pak -93	purple	41.422	0.0867	19.609	5.3784	19.081	5.982	0.3828	7.642	0	0.0046	0	99.588
Six-Pak -94	purple	41.198	0.0567	19.3327	6.2331	18.651	6.762	0.4232	7.401	0	0.014	0	100.07
Six-Pak -95	purple	41.368	0.1429	19.5553	5.5961	19.268	6.035	0.429	7.482	0.043	0.0218	0	99.94
Six-Pak -96	purple	41.451	0.0607	21.4041	3.0495	19.684	5.392	0.4469	8.489	0	0.015	0	99.992
Six-Pak -97	purple	41.836	0.1998	20.4757	4.6987	20.163	5.635	0.4061	7.128	0.041	0.0294	0	100.61
Six-Pak -98	purple	41.765	0.1681	20.3004	4.857	20.282	5.323	0.3508	7.329	0.006	0.0239	0	100.41
Six-Pak -99	purple	41.495	0.2362	20.4179	4.6163	19.939	5.214	0.3945	7.668	0	0.0409	0	100.02
Six-Pak -100	purple	41.361	0.0948	19.752	5.3737	19.803	5.927	0.4112	7.394	0.034	0.0062	0	100.16
Six-Pak -101	purple	40.8	0.3255	19.0024	6.0619	18.07	6.661	0.4758	8.83	0.021	0.037	0	100.28
Six-Pak -102	red	41.95	0.5569	20.7167	3.4393	21.37	4.823	0.2287	7.035	0	0.0403	0	100.16
Six-Pak -103	red	41.673	0.1774	21.2918	3.5363	20.601	4.953	0.364	7.49	0	0.0325	0	100.12
Six-Pak -104	red	41.841	0.1701	22.1656	2.3983	20.005	5.002	0.3614	8.083	0	0.0335	0.017	100.08
Six-Pak -105	red	41.636	0.0385	21.5808	3.0528	18.992	5.646	0.5083	8.847	0.019	0.0238	0.005	100.35
Six-Pak -106	red	42.289	0.6934	20.9067	3.062	21.543	4.608	0.2302	7.098	0.034	0.0823	0	100.55
Six-Pak -107	red	42.01	0.2837	22.1978	2.1253	20.15	5.012	0.3839	8.35	0.022	0.0268	0	100.56
Six-Pak -108	red	41.824	0.2662	21.7711	2.4999	20.367	4.858	0.3754	7.936	1E-04	0.0353	0.045	99.977
Six-Pak -109	red	42.096	0.2151	22.5478	1.7256	20.532	4.855	0.3926	8.343	0	0.0439	0	100.75
Six-Pak -110	red	41.735	0.1086	20.946	3.7412	19.386	5.765	0.4158	8.018	0.001	0.0107	0	100.13
Six-Pak -111	red	41.216	0.2509	20.7948	3.0508	18.465	5.204	0.5016	10.48	0.021	0.0325	9E-04	100.02
Six-Pak -112	red	41.667	0.8537	20.4803	2.8433	20.553	4.737	0.2456	7.982	0	0.0651	0.005	99.431
Six-Pak -113	red	42.086	0.3419	21.1886	3.0435	21.392	4.76	0.2981	6.916	0	0.043	0	100.07
Six-Pak -114	red	42.076	0.4015	21.8468	2.4755	21.364	4.813	0.3065	7.327	0.013	0.0308	0.023	100.68
Six-Pak -115	red	41.707	0.4414	20.3892	4.43	20.408	5.243	0.3877	7.292	0.006	0.0454	0	100.35
Six-Pak -116	red	41.687	0.0564	20.6337	4.4054	19.552	5.828	0.3803	7.912	0.022	0.012	0.037	100.53
Six-Pak -117	red	42.226	0.2271	23.0696	0.9927	20.951	4.829	0.372	7.602	0	0.0369	0	100.31
Six-Pak -118	red	41.24	0.2664	20.9037	3.1006	18.404	5.618	0.4517	9.904	0.006	0.0241	0.005	99.924
Six-Pak -119	red	41.99	0.2755	21.8757	2.6742	19.775	5.142	0.4763	8.867	0.043	0.0412	0	101.16

Six-Pak Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Six-Pak -120	red	42.312	0.4838	21.8391	2.1795	21.126	4.672	0.331	7.347	0	0.0496	0	100.34
Six-Pak -121	red	41.948	0.2347	21.9779	2.7581	20.456	5.218	0.4247	7.743	0.01	0.0371	0	100.81
Six-Pak -122	red	41.885	0.252	21.6045	2.7211	20.103	4.974	0.3655	8.155	0.001	0.0287	0.027	100.12
Six-Pak -123	red	42.05	0.1918	22.0306	2.6567	20.641	4.882	0.4178	7.707	0	0.0354	0	100.61
Six-Pak -124	red	41.872	0.2131	21.8237	2.5271	19.782	5.112	0.4243	8.671	0	0.0323	0	100.46
Six-Pak -125	red	41.929	0.1493	21.3409	3.4313	20.457	5.231	0.4092	7.188	0.019	0.023	0	100.18
Six-Pak -126	red	41.639	0.2637	21.1502	3.1897	19.821	5.149	0.4143	8.354	0.01	0.0297	0.008	100.03
Six-Pak -127	red	41.603	0.0984	21.5083	3.145	20.097	5.305	0.3836	7.964	0	0.0273	0	100.13
Six-Pak -128	red	41.614	0.1774	21.4174	3.3579	20.145	5.136	0.4062	7.785	0.013	0.0252	0	100.08
Six-Pak -129	red	41.35	0.2812	21.0702	3.0586	19.201	5.215	0.4392	9.129	0.057	0.0309	0.001	99.833
Six-Pak -130	red	41.963	0.1805	22.0978	2.2545	20.468	4.764	0.3346	7.981	0	0.0238	0	100.07
Six-Pak -131	red	42.168	0.1996	22.0122	2.3171	20.753	4.924	0.387	7.647	0.016	0.0236	0.013	100.46
Six-Pak -132	red	41.755	0	21.5436	3.507	19.21	5.943	0.482	8.178	0	0.0052	0	100.62
Six-Pak -133	red	42.344	0.2281	21.8492	2.8809	20.831	5.073	0.381	7.583	0	0.0284	0	101.2
Six-Pak -134	red	41.735	0.0362	21.1732	3.7802	19.994	5.502	0.3976	8.03	0.047	0.0043	0	100.7
Six-Pak -135	red	41.684	0.1392	21.05	3.7222	20.126	5.256	0.385	8.089	0	0.0196	0.007	100.48
Six-Pak -136	red	41.814	0.1233	21.5286	3.1853	20.022	5.377	0.4498	8.02	0	0.0219	0	100.54
Six-Pak -137	red	41.513	0.2361	20.5245	4.1047	19.717	5.265	0.4254	8.417	0	0.0435	0	100.25
Six-Pak -138	red	41.862	0.2561	21.9451	2.34	19.988	5.034	0.4245	8.621	0.018	0.0246	0	100.51
Six-Pak -139	red	41.697	0.263	22.169	2.1628	20.509	4.838	0.4672	8.138	0.029	0.0339	0	100.31
Six-Pak -140	red	41.917	0.213	21.7672	2.5944	20.346	4.849	0.4151	7.912	0	0.0217	0	100.03
Six-Pak -141	red	41.879	0.0504	22.2132	2.4391	19.021	5.388	0.4723	8.915	0	0.0239	0	100.4
Six-Pak -142	red	41.884	0.1963	21.726	3.0676	20.216	4.95	0.4302	8.103	0.019	0.0426	0	100.64
Six-Pak -143	red	42.001	0.1597	22.2591	2.2075	20.02	5.043	0.4446	8.717	0	0.0238	0.069	100.95
Six-Pak -144	red	41.758	0.1503	22.5708	1.5153	19.748	4.694	0.2893	9.443	0	0.0349	0	100.2
Six-Pak -145	red	41.997	0.287	21.779	2.7596	19.936	5.101	0.4428	8.605	0	0.0464	0	100.95
Six-Pak -146	red	41.688	0.2761	22.0346	2.0077	20.021	4.787	0.374	8.387	0	0.0381	0.006	99.619
Six-Pak -147	red	41.826	0.7721	19.6976	4.4769	21.144	5.054	0.3062	6.729	0.025	0.0649	0	100.1
Six-Pak -148	red	42.008	0.2303	22.3166	2.146	20.572	4.801	0.3801	7.768	0.032	0.0283	0	100.28
Six-Pak -149	red	41.622	0.1144	19.9499	5.114	19.196	5.984	0.4335	8.146	0.049	0.03	0	100.64
Six-Pak -150	red	41.947	0.2644	20.8694	4.0053	20.08	5.584	0.4161	7.863	0	0.0261	0.004	101.06
Six-Pak -151	red	39.708	0.0966	21.6576	1.291	12.614	5.872	1.1095	18.18	0	0.0207	0	100.55
Six-Pak -152	orange	41.441	0.5557	22.5102	0.0409	17.984	4.586	0.4708	12.92	0	0.0603	0	100.57
Six-Pak -153	orange	41.498	0.8468	21.4811	1.6752	19.959	4.523	0.2536	9.867	0.055	0.0626	0.004	100.22
Six-Pak -154	orange	41.794	0.6717	22.1897	0.8014	20.245	4.534	0.3416	9.583	0.018	0.0726	0.021	100.27
Six-Pak -155	orange	42.15	0.6978	22.1266	0.9369	20.209	4.721	0.3089	9.575	0.031	0.0633	0	100.82
Six-Pak -156	orange	42.139	0.6326	21.9889	1.0421	20.42	4.592	0.2554	9.256	0.024	0.0548	0	100.4
Six-Pak -157	orange	41.766	0.8159	21.8772	0.7586	19.755	4.509	0.234	10.36	0	0.0755	0	100.16
Six-Pak -158	orange	42.235	0.5142	22.9381	0.1543	20.621	4.202	0.3361	9.212	0	0.0605	0.008	100.28
Six-Pak -159	orange	41.619	0.8426	22.2034	0.2063	18.517	4.696	0.3699	12.23	0.012	0.0968	0	100.8
Six-Pak -160	orange	42.053	0.6743	22.3775	0.3526	19.905	4.393	0.2595	10.71	0.024	0.0711	0	100.81
Six-Pak -161	orange	42.064	0.7365	22.0996	0.7094	19.818	4.513	0.2453	10.35	0.032	0.0706	0	100.64
Six-Pak -162	orange	41.991	0.7306	21.5581	0.9018	19.873	4.533	0.2975	10.3	0.025	0.0654	0	100.28
Six-Pak -163	orange	41.446	0.5481	22.5552	0.1008	18.089	4.504	0.4767	12.52	0	0.056	0	100.3
Six-Pak -164	orange	42.021	0.6217	22.1345	0.8537	20.286	4.442	0.2697	9.557	0	0.0725	0	100.26
Six-Pak -165	orange	41.113	0.8378	22.1333	0.0664	18.032	4.505	0.4288	12.91	0.031	0.0748	0.005	100.13
Six-Pak -166	orange	41.534	0.75	21.7316	0.4409	19.058	4.87	0.2592	11.32	0.032	0.0664	0	100.06
Six-Pak -167	orange	41.511	0.7437	21.8187	0.8819	19.821	4.501	0.3282	10.67	0.029	0.0662	0.012	100.38
Six-Pak -168	orange	42.191	0.748	22.6796	0.0475	18.444	4.672	0.3474	12.52	0.035	0.0795	0	101.76
Six-Pak -169	orange	42.078	0.6166	22.1781	0.3881	19.642	4.432	0.282	10.99	0.035	0.0581	0	100.7
Six-Pak -170	orange	41.494	0.6399	22.4528	0.0272	17.99	4.693	0.4247	12.79	0.031	0.0662	0.023	100.63
Six-Pak -171	orange	41.895	0.6943	22.1622	0.7333	20.051	4.525	0.258	10.3	0	0.0615	0	100.68
Six-Pak -172	orange	41.478	0.6919	22.3622	0.0478	17.845	4.523	0.4385	13.45	0	0.0808	0.004	100.92
Six-Pak -173	orange	41.479	0.8358	22.0844	0.2277	18.39	4.778	0.3533	12.25	0.001	0.0666	0.014	100.48
Six-Pak -174	orange	41.736	0.7688	22.1613	0.471	19.523	4.514	0.2647	11.4	0	0.0726	0	100.91
Six-Pak -175	orange	42.193	0.7329	22.0874	0.7446	20.175	4.499	0.2613	9.726	0.01	0.0626	0	100.49
Six-Pak -176	orange	41.427	0.7883	22.309	0.3819	18.722	4.563	0.341	11.48	0.013	0.0615	0.004	100.09
Six-Pak -177	orange	41.533	0.7017	22.6817	0.1807	18.252	4.642	0.3546	12.29	0.035	0.0607	0	100.73
Six-Pak -178	orange	41.352	0.9035	21.9543	0.2411	18.295	4.813	0.3602	12.38	0.028	0.0924	0.019	100.44

Six-Pak Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Six-Pak -179	orange	42.161	0.6089	22.772	0.1745	20.373	4.203	0.3037	9.692	0.046	0.0782	0	100.41
Six-Pak -180	orange	41.798	0.643	22.3247	0.2874	20.014	4.515	0.247	10.42	0	0.071	0	100.32
Six-Pak -181	orange	42.297	0.6902	21.9981	0.9567	20.483	4.589	0.3459	9.355	0.047	0.0663	0.07	100.9
Six-Pak -182	orange	42.386	0.7293	22.1271	0.8794	20.393	4.527	0.3192	9.507	0.01	0.0657	0.013	100.96
Six-Pak -183	orange	41.824	0.7368	21.8371	1.1767	20.033	4.475	0.296	10.35	0.037	0.0739	0.003	100.84
Six-Pak -184	orange	42.072	0.6737	22.1207	0.7834	20.431	4.449	0.3021	9.786	0.015	0.0636	0.008	100.7
Six-Pak -185	orange	40.616	0.1982	22.1723	0.7499	15.546	5.562	0.5393	15.27	0	0.0024	0.012	100.67
Six-Pak -186	orange	41.42	0.5579	22.7767	0.0755	18.048	4.374	0.3769	13.1	0.022	0.0435	0	100.79
Six-Pak -187	orange	42.05	0.7272	21.9892	0.9381	19.97	4.456	0.2496	10.43	0.046	0.0652	0	100.92
Six-Pak -188	orange	41.454	0.6788	22.549	0.0621	18.118	4.699	0.4264	12.53	0.007	0.0713	0.01	100.61
Six-Pak -189	orange	41.896	0.8694	21.2519	1.6718	20.077	4.66	0.3032	9.794	0.041	0.0657	0	100.63
Six-Pak -190	orange	41.946	0.7197	22.1982	0.7712	20.136	4.582	0.2782	9.601	0.035	0.0552	0	100.32
Six-Pak -191	orange	42.374	0.6549	21.9842	0.9929	20.749	4.534	0.2486	9.35	0.03	0.076	0	100.99
Six-Pak -192	orange	42.107	0.6681	22.2301	0.7935	20.143	4.467	0.3233	9.624	0.035	0.05	0.014	100.45
Six-Pak -193	orange	40.261	0.0333	22.2717	0.6369	13.591	5.284	0.6648	18.31	0	0.0044	0.022	101.08
Six-Pak -194	orange	41.723	0.7855	21.4215	1.6724	19.738	4.659	0.2185	9.768	0	0.0663	0	100.05
Six-Pak -195	orange	41.955	0.6135	22.2256	1.0642	20.708	4.52	0.2951	9.475	0.01	0.0608	0	100.93
Six-Pak -196	orange	41.314	0.5537	22.6041	0.0131	17.783	4.56	0.4219	13.04	0.021	0.0722	0	100.38
Six-Pak -197	orange	41.724	0.8394	22.0117	0.2351	18.447	4.51	0.3827	12.39	0	0.0738	0	100.61
Six-Pak -198	orange	41.758	0.6751	22.2131	0.207	19.622	4.674	0.244	10.86	0.018	0.0602	7E-04	100.33
Six-Pak -199	orange	41.978	0.6466	21.738	1.0947	20.549	4.558	0.277	8.915	0.016	0.0607	0	99.832
Six-Pak -200	orange	41.403	0.7401	22.4956	0.0434	18.062	4.551	0.3938	12.76	0	0.063	0	100.52
Six-Pak -201	orange	41.191	0.7431	22.3634	0.0767	18.123	4.636	0.3418	12.7	0	0.075	0	100.25
Six-Pak -202	orange	40.943	0.5053	22.5238	0.0701	17.761	4.584	0.4303	13.07	0	0.0698	0	99.959
Six-Pak -203	orange	41.795	0.7307	21.4264	1.6889	19.911	4.668	0.2212	10.48	0	0.0582	0	100.98
Six-Pak -204	orange	42.152	0.712	22.1587	1.0685	20.797	4.607	0.2825	9.089	0.028	0.0563	0	100.95
Six-Pak -205	orange	40.906	0.2149	22.6095	0.6315	15.868	5.358	0.4796	14.47	0.05	0.0077	0.007	100.6
Six-Pak -206	orange	41.64	0.6858	22.425	0.0605	18.19	4.58	0.4624	12.92	0.01	0.0708	0.009	101.05
Six-Pak -207	orange	41.099	0.5313	22.534	0.0027	17.932	4.391	0.4431	12.91	0.021	0.0636	0	99.927
Six-Pak -208	orange	41.23	0.5671	22.5523	0.0237	17.651	4.445	0.4163	13.14	0	0.0702	0	100.1
Six-Pak -209	orange	41.929	0.7138	21.9869	0.862	20.066	4.599	0.2836	9.745	0.009	0.0602	0.007	100.26
Six-Pak -210	orange	42.138	0.6594	22.2629	0.7629	20.417	4.577	0.3148	9.719	0.025	0.0725	0	100.95
Six-Pak -211	orange	41.574	0.5655	22.6423	0.0398	18.066	4.449	0.4515	13.04	0	0.0771	0.023	100.93
Six-Pak -212	orange	41.263	0.5287	22.6188	0.0248	17.948	4.567	0.4765	13.06	0	0.069	0.02	100.58
Six-Pak -213	orange	41.538	0.7606	21.6081	1.2209	20.026	4.393	0.2737	10.03	0.001	0.0752	0	99.922
Six-Pak -214	orange	41.805	0.769	21.7061	1.1235	19.942	4.463	0.299	10.2	0	0.0679	0	100.37
Six-Pak -215	orange	41.337	0.6868	22.1249	0.4187	18.739	4.399	0.3532	12.39	0.004	0.0872	0	100.54
Six-Pak -216	orange	42.115	0.6452	21.9273	1.0559	20.531	4.539	0.2852	9.385	0.043	0.0442	0	100.57
Six-Pak -217	orange	41.569	0.6563	22.4788	0.0318	17.815	4.558	0.3388	13.23	0.037	0.0683	0.033	100.82
Six-Pak -218	orange	42.164	0.7416	22.2089	0.792	20.293	4.576	0.2979	9.872	0.056	0.056	0.047	101.1
Six-Pak -219	orange	42.027	0.7026	22.0928	0.774	20.391	4.535	0.2837	9.698	0.027	0.0732	0	100.6
Six-Pak -220	orange	41.834	0.6522	22.1613	0.3313	19.555	4.479	0.3087	11.14	0	0.0617	0	100.53
Six-Pak -221	orange	41.497	0.6499	22.5315	0.1061	18.513	4.462	0.4223	12.22	0.004	0.0694	0.006	100.48
Six-Pak -222	orange	41.32	0.605	22.5534	0.0549	18.197	4.597	0.4458	12.88	0.034	0.0668	0	100.76
Six-Pak -223	orange	41.822	0.7347	21.5953	1.311	20.121	4.456	0.2567	10.06	0	0.0621	0.024	100.45
Six-Pak -224	orange	41.147	0.5942	22.1695	0.0299	17.849	4.465	0.4471	13.17	0	0.0701	0	99.944
Six-Pak -225	orange	41.847	0.6897	22.6341	0.0858	18.43	4.478	0.3632	12.42	0	0.07	0	101.02
Six-Pak -226	orange	41.979	0.7276	21.8104	1.1016	20.42	4.734	0.2796	9.477	0	0.0665	0	100.6
Six-Pak -227	orange	41.222	0.8409	22.3579	0.07	17.981	4.595	0.4276	12.77	0.001	0.0625	0	100.33
Six-Pak -228	orange	41.604	0.7019	22.2783	0.0907	18.181	4.563	0.3728	12.68	0.004	0.0709	0	100.55
Six-Pak -229	orange	42.125	0.6014	22.5439	0.3733	20.55	4.352	0.294	9.587	0.021	0.0629	0.007	100.52
Six-Pak -230	orange	42.001	0.6792	22.2129	0.6695	19.832	4.389	0.2934	10.27	0.063	0.0696	0	100.48
Six-Pak -231	orange	42.249	0.6559	22.1352	1.1822	20.919	4.528	0.2656	9.016	0.047	0.0697	0	101.07
Six-Pak -232	orange	37.711	0.0544	21.2982	0	3.965	7.382	1.2493	29.67	0.032	0.0083	0.016	101.38
Six-Pak -233	orange	41.826	0.7647	22.0352	0.6183	20.065	4.373	0.2891	10.46	0.035	0.0596	0	100.53
Six-Pak -234	orange	41.648	0.6133	22.7007	0.0145	18.068	4.586	0.4963	13.06	0.031	0.0723	0	101.29
Six-Pak -235	orange	41.983	0.5667	22.5207	0.4329	19.866	4.32	0.2962	10.56	0.034	0.0628	0	100.65
Six-Pak -236	orange	41.648	0.642	22.6279	0.0641	18.199	4.551	0.3546	12.75	0	0.069	0.011	100.91
Six-Pak -238	orange	41.699	0.7235	21.8206	0.8344	20.004	4.403	0.2849	10.44	0	0.0733	0	100.29

Six-Pak Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Six-Pak -239	orange	41.494	0.7683	22.0926	0.325	18.53	4.459	0.3885	12.23	0	0.0804	0	100.36
Six-Pak -240	orange	41.262	0.7644	22.6978	0.0831	18.078	4.718	0.4205	13.03	0.009	0.0664	0	101.13
Six-Pak -241	orange	42.167	0.7165	22.1616	0.5962	19.97	4.403	0.2737	10.38	0.029	0.0597	0	100.76
Six-Pak -243	orange	41.352	0.7811	22.2712	0.288	18.519	4.787	0.4252	11.98	0	0.0659	0	100.47
Six-Pak -244	orange	41.948	0.6977	22.1707	0.7728	20.412	4.537	0.3107	9.581	0.006	0.0572	0.039	100.53
Six-Pak -245	orange	41.496	0.7393	22.3087	0.0514	18.001	4.753	0.3993	13.28	0	0.0729	0	101.1
Six-Pak -246	orange	41.972	0.7131	22.2737	0.33	20.088	4.448	0.2216	10.17	0.04	0.0645	0	100.32
Six-Pak -247	orange	41.486	0.826	22.1797	0.0504	17.799	4.647	0.3981	13.11	0	0.0828	0	100.58
Six-Pak -248	orange	41.564	0.6133	22.4468	0.0318	17.982	4.585	0.3968	12.72	0.041	0.0672	0.016	100.46
Six-Pak -249	orange	41.23	0.6904	22.3979	0.0369	17.807	4.865	0.384	13.04	0	0.0723	0	100.52
Six-Pak -250	orange	42.043	0.7189	22.2774	0.7858	20.306	4.463	0.2879	9.837	0.034	0.0667	0	100.82
Six-Pak -251	orange	41.513	0.5628	22.5068	0.0614	18.125	4.398	0.4348	12.85	0	0.0706	0	100.52

Sample	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Six Pak -2	0.035	0.43	0.0219	0.0245	12.761	54.935	0.282	12.12	0.04	0.1941	19.181	0.105	0.146	100.27	3.4069	16.12	100.61
Six Pak -3	0.035	0.62	0	0	13.411	55.338	0.252	12.36	0.032	0.1279	17.722	0.101	0.112	100.1	1.9341	15.98	100.3
Six Pak -4	0.03	0.17	0.0347	0	12.681	55.283	0.378	11.81	0.054	0.3582	19.15	0.183	0.128	100.25	3.2359	16.24	100.58
Six Pak -5	0.021	0.73	0	0.0282	16.623	49.224	0.411	11.52	0.031	0.1732	21.565	0.116	0.2	100.64	3.7666	18.18	101.02
Six Pak -7	0.019	2.42	0	0.002	1.1332	55.655	0.596	6.284	0.062	0.5774	32.477	0.15	0.109	99.479	8.4755	24.85	100.33
Six Pak -8	0.06	1.42	0	0.0362	12.982	52.727	0.319	13.12	0.009	0	19.669	0.208	0.12	100.67	4.2141	15.88	101.09
Six Pak -9	0.052	0.85	0.0656	0.0252	12.489	53.537	0.28	12.28	0.015	0.2037	20.47	0.121	0.088	100.48	4.5214	16.4	100.93
Six Pak -10	0.037	1.21	0.0064	0	13.377	52.524	0.224	12.65	0.067	0.2511	19.647	0.147	0.019	100.16	4.1052	15.95	100.57
Six Pak -11	0.036	1.28	0.0026	0	16.151	52.508	0.24	13.67	0.064	0.2633	16.431	0.119	0.171	100.93	1.5869	15	101.09
Six Pak -12	0.017	1.43	0	0	14.305	51.963	0.379	12.8	0	0.307	18.721	0.138	0.147	100.21	2.8219	16.18	100.49
Six Pak -14	0.065	0.39	0	0	13.1	53.723	0.384	12.41	0	0.2808	20.111	0.14	0.125	100.73	4.604	15.97	101.19
Six Pak -15	0.038	1.1	0.0232	0	12.719	52.55	0.305	12.29	0.034	0.2779	20.553	0.126	0.141	100.16	4.635	16.38	100.62
Six Pak -16	0.067	0.75	0	0	12.568	54.97	0.281	12.7	0.024	0.5023	18.156	0.131	0.117	100.27	3.2816	15.2	100.6
Six Pak -18	0.061	1.57	0.0436	0.0475	11.548	50.297	0.147	11.03	0.066	0.0937	24.912	0.089	0.095	100.01	7.0352	18.58	100.71
Six Pak -19	0.023	2.28	0	0.0123	12.975	50.256	0.256	12.67	0.04	0.3524	20.521	0.156	0.269	99.805	4.5281	16.45	100.26
Six Pak -21	0.028	1.07	0	0	13.716	52.724	0.371	12.68	0.078	0.2307	18.776	0.156	0.176	100.01	3.2616	15.84	100.34
Six Pak -24	0.037	3.37	0	0.0245	11.481	46.239	0.373	11.15	0	0.257	26.658	0.293	0.154	100.04	7.4392	19.96	100.78
Six Pak -26	0	3.96	0.0199	0.0382	0.0302	43.621	0.52	4.853	0.012	0.3343	44.233	0.264	0.202	98.089	18.065	27.98	99.899
Six Pak -27	0.042	1.3	0.0425	0.0184	12.43	52.218	0.397	12.22	0	0.0706	21.145	0.149	0.077	100.11	4.5326	17.07	100.57
Six Pak -28	0.048	0.18	0	0.0456	12.695	54.958	0.302	12.3	0	0.2776	19.004	0.191	0.109	100.1	3.8775	15.52	100.49
Six Pak -29	0.038	0.62	0.0415	0.0206	15.308	53.867	0.335	13.76	0.062	0.0672	15.823	0.146	0.088	100.17	1.6511	14.34	100.34
Six Pak -30	0.028	0.16	0	0	22.571	46.205	0.305	14.93	0.029	0.2138	16.176	0.09	0.213	100.92	3.239	13.26	101.24
Six Pak -31	0.033	2.87	0.0026	0	10.339	52.588	0.184	12.46	0.022	0.2857	21.083	0.225	0.077	100.17	4.4348	17.09	100.61
Six Pak -32	0.049	0.56	0	0	12.553	53.306	0.25	11.8	0.073	0.3499	20.799	0.143	0.117	99.998	4.931	16.36	100.49
Six Pak -33	0.029	0.44	0.0245	0.0177	13.016	54.718	0.265	12.34	0	0.2341	19.54	0.128	0.048	100.8	3.889	16.04	101.19
Six Pak -34	0.038	0.46	0	0	12.409	55.45	0.242	12.8	0.038	0.1735	17.924	0.128	0.024	99.687	3.3676	14.89	100.02
Six Pak -36	0.051	2.11	0	0	12.473	51.35	0.511	12.15	0	0.1874	21.295	0.162	0.175	100.47	3.7512	17.92	100.84
Six Pak -37	0	2.08	0.0138	0	2.2168	41.833	0.326	4.831	0	0.5327	46.588	0.26	0.143	98.821	22.314	26.51	101.06
Six Pak -38	0.06	0.28	0.0271	0.056	13.283	54.353	0.281	13.28	0.036	0.1716	18.092	0.154	0.067	100.14	4.1516	14.36	100.55
Six Pak -39	0.075	0.63	0.0734	0	12.667	54.947	0.349	13.12	0.016	0.3374	17.926	0.191	0.069	100.41	3.4062	14.86	100.75
Six Pak -41	8E-04	0.93	0	0	4.177	58.35	0.443	7.793	0.054	0.517	27.687	0.055	0.238	100.25	6.6752	21.68	100.91
Six Pak -45	0.051	1.02	0.0065	0	14.506	53.456	0.297	13.31	0.023	0.2027	17.482	0.158	0.12	100.63	2.5277	15.21	100.89
Six Pak -46	0.076	0.38	0	0.0436	12.917	53.958	0.232	12.19	0.005	0.1834	20.043	0.182	0.199	100.41	4.5437	15.95	100.86
Six Pak -47	0.042	0.71	0.0296	0.0041	12.537	53.578	0.387	12.06	0	0.261	20.785	0.164	0.12	100.67	4.5431	16.7	101.13
Six Pak -48	0.053	1.2	0	0	12.336	53.885	0.2	12.56	0.016	0.3348	18.914	0.142	0.048	99.688	3.5711	15.7	100.05
Six Pak -50	0.042	0.09	0.0219	0	13.167	56.928	0.216	13.52	0.005	0.1385	16.116	0.16	0.133	100.54	2.615	13.76	100.8
Six Pak -53	0.046	0.13	0.0013	0	24.41	44.458	0.103	15.54	0.033	0.0651	15.824	0.075	0.173	100.86	3.7039	12.49	101.23
Six Pak -54	0.023	0.24	0	0.0293	27.432	39.79	0.154	16.42	0.012	0.2677	15.602	0.087	0.196	100.25	4.6821	11.39	100.72
Six Pak -55	0.05	4.76	0.0152	0	5.6688	48.596	0.489	9.972	0.065	0.215	29.852	0.198	0.087	99.97	8.2694	22.41	100.8
Six Pak -58	0.067	0.34	0.0013	0	12.788	54.357	0.301	12.1	0.029	0.202	19.459	0.085	0.099	99.835	3.7996	16.04	100.22
Six Pak -59	0.064	1.81	0	0	12.302	51.599	0.237	12.21	0.008	0.1443	21.518	0.08	0.173	100.15	4.8511	17.15	100.63
Six Pak -60	0.063	1.79	0.0228	0	6.5733	58.357	0.404	12.16	0.094	0.222	20.248	0.219	0.114	100.27	4.3233	16.36	100.7
Six Pak -61	0.056	1.59	0.018	0.0163	12.047	50.122	0.446	11.83	0.01	0.4052	23.717	0.147	0.058	100.46	6.6386	17.74	101.12
Six Pak -62	0.062	0.07	0.0361	0.0157	13.086	54.942	0.311	12.54	0.005	0.2372	18.659	0.11	0.064	100.14	3.712	15.32	100.51
Six Pak -64	0.039	1.23	0	0	16.065	52.709	0.181	13.6	0.058	0.102	16.389	0.058	0.131	100.56	1.4282	15.1	100.7
Six Pak -65	0.038	0.38	0	0.043	12.899	54.351	0.316	12.98	0.045	0.1277	19.223	0.166	0.067	100.64	4.6647	15.03	101.1
Six Pak -67	0.052	0.2	0	0.0573	13.78	55.295	0.345	12.78	0.002	0.3961	17.488	0.136	0.202	100.73	2.6844	15.07	101
Six Pak -68	0.043	0.91	0.0426	0.028	13.384	55.104	0.321	13.61	0	0.2096	16.744	0.125	0	100.52	2.3005	14.67	100.76
Six Pak -69	0.051	0.9	0	0	15.212	53.655	0.214	13.22	0.072	0.2114	16.809	0.1	0.005	100.45	1.7399	15.24	100.62
Six Pak -70	0.039	1.56	0	0	13.2	52.446	0.431	12.84	0.054	0.3101	18.86	0.181	0	99.918	3.0411	16.12	100.22
Six Pak -71	0	0.35	0.0116	0	14.665	48.196	0.341	11.75	0.026	0.3074	23.848	0.026	0.152	99.682	7.8374	16.8	100.47
Six Pak -72	0.043	0.92	0.072	0.0156	12.008	54.808	0.456	13.04	0.06	0.2952	18.776	0.166	0.003	100.66	3.7043	15.44	101.03
Six Pak -73	0.053	0.73	0	0.0232	12.719	53.171	0.253	12.58	0.005	0.3607	19.621	0.115	0.136	99.766	4.7396	15.36	100.24
Six Pak -74	0.044	0.95	0.0195	0.0357	15.226	53.327	0.371	14.63	0.044	0.2081	15.752	0.093	0.094	100.79	2.5173	13.49	101.04
Six Pak -75	0.071	0.73	0	0.0143	13.02	54.534	0.207	13.08	0.052	0.203	17.472	0.089	0.157	99.633	3.1584	14.63	99.95
Six Pak -76	0.018	1.02	0.0176	0	4.8878	57.432	0.364	8.007	0.036	0.162	27.173	0.102	0.165	99.382	6.2193	21.58	100.01
Six Pak -77	0.059	0.13	0	0	11.273	57.612	0.248	13.48	0.039	0.394	16.566	0.168	0.309	100.27	3.8813	13.07	100.66
Six Pak -78	0.042	0.68	0.0143	0	17.208	50.648	0.499	13.5	0.02	0.1053	17.617	0.174	0.153	100.66	2.4557	15.41	100.91
Six Pak -80	0.05	0.03	0	0	13.763	56.453	0.292	13.75	0.082	0	16.153	0.114	0.181	100.87	2.71	13.71	101.14

Six-Pak Chromite

Sample	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Six Pak -81	0.075	0.23	0	0	13.669	55.744	0.343	13.51	0.022	0.0809	16.204	0.116	0.144	100.14	2.2972	14.14	100.37
Six Pak -82	0.026	0.44	0	0	19.511	49.842	0.254	13.41	0.036	0.2144	16.368	0.086	0.236	100.43	1.4475	15.07	100.57
Six Pak -83	0.036	1.26	0.031	0.0219	14.273	52.795	0.294	13.48	0.006	0.2175	17.766	0.261	0.181	100.62	3.0777	15	100.93
Six Pak -84	0.042	0.22	0	0	13.864	56.456	0.301	13.43	0.029	0.1781	15.732	0.1	0.085	100.43	1.6845	14.22	100.6
Six Pak -85	0.056	1.09	0.0245	0.0198	13.081	53.873	0.178	13.53	0.064	0.2341	17.944	0.212	0.192	100.5	4.0013	14.34	100.9
Six Pak -87	0.028	0.68	0.0078	0	14.42	53.314	0.25	13.2	0.01	0.2053	18.139	0.107	0.115	100.47	3.5119	14.98	100.82
Six Pak -88	0.046	0.71	0	0	13.137	54.457	0.257	13.13	0.013	0.1965	18.299	0.059	0.123	100.43	3.6927	14.98	100.8
Six Pak -89	0.035	0.29	0	0	13.814	53.792	0.346	12.74	0	0.1866	18.975	0.1	0.093	100.37	3.9491	15.42	100.77
Six Pak -91	0.053	1.27	0	0.002	11.941	54.348	0.181	12.57	0.102	0.1291	18.791	0.091	0.138	99.617	3.4495	15.69	99.963
Six Pak -92	0.05	0.57	0.0116	0.0041	12.747	53.136	0.281	11.95	0.056	0.3661	20.344	0.112	0.059	99.688	4.5936	16.21	100.15
Six Pak -93	0.051	0.53	0.0181	0.0199	14.267	52.515	0.329	12.87	0.043	0.3689	18.789	0.165	0.141	100.1	4.0925	15.11	100.51

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
Six Pak -1	core	0.016	51.319	0.1717	0.0058	0.3438	0.1085	0.2816	8.869	0.013	0.4377	37.363	0.05	0	98.98	7.638058	30.49	99.745	61.306	31.780	6.914	100
Six Pak -2	core	0.024	51.724	0.1447	0	0.4996	0.0543	0.0984	9.325	0	0.3088	37.023	0.075	0	99.276	7.967807	29.85	100.07	59.642	33.197	7.162	100
Six Pak -3	core	0.011	50.896	0.1985	0.0469	0.2589	0.0678	0.255	8.191	0.072	0.3371	39.095	0.059	0	99.488	8.615355	31.34	100.35	62.877	29.309	7.814	100
Six Pak -5	core	0.021	51.153	0.131	0.0702	0.4952	0	0.3653	9.025	0.019	0.2978	36.899	0.066	0.042	98.584	7.354305	30.28	99.321	60.899	32.391	6.710	100
Six Pak -6	core	0.015	51.206	0.1629	0.0013	0.3389	0.016	0.1999	8.59	0	0.32	38.102	0.069	0.113	99.134	8.159661	30.76	99.952	61.843	30.775	7.382	100
Six Pak -7	core	0.021	50.841	0.1468	0	0.3124	0.0567	0.199	8.316	0.057	0.2363	38.327	0.064	0.003	98.579	8.117051	31.02	99.392	62.682	29.940	7.379	100
Six Pak -8	core	0.012	51.891	0.1173	0.0103	0.3688	0.1435	0	9.034	0.007	0.2664	36.559	0.151	0	98.559	6.969336	30.29	99.258	61.150	32.511	6.339	100
Six Pak -9	core	0.029	51.568	0.1063	0.0341	0.5859	0.0083	0.1568	9.343	0.012	0.2112	36.648	0.066	0.018	98.786	7.573068	29.83	99.545	59.769	33.378	6.853	100
Six Pak -10	core	0.017	51.744	0.1099	0.0129	0.3693	0.0733	0.3949	9.172	0.026	0.2658	37.027	0.05	0	99.262	7.134906	30.61	99.977	61.005	32.587	6.408	100
Six Pak -11	core	0.017	51.682	0.1703	0.0457	0.3846	0.1568	0.21	8.776	0.017	0.2359	37.652	0.031	0.105	99.483	7.371363	31.02	100.22	62.030	31.302	6.668	100
Six Pak -12	core	0.049	51.768	0.1049	0.0122	0.2825	0.0231	0.1926	8.619	0.009	0.1255	37.946	0.041	0	99.173	7.166371	31.5	99.891	62.882	30.672	6.446	100
Six Pak -13	core	0.03	51.558	0.1838	0.0212	0.2634	0	0.3839	8.75	0.013	0.2908	37.442	0.031	0	98.967	6.841144	31.29	99.652	62.609	31.215	6.176	100
Six Pak -14	core	0.015	51.951	0.0889	0.0155	0.5145	0.0255	0.2387	9.29	0.035	0.3048	36.701	0.108	0.105	99.393	7.321209	30.11	100.13	60.257	33.139	6.603	100
Six Pak -15	core	0.025	51.876	0.1333	0.0161	0.4153	0.0085	0.2038	8.873	0.026	0.2608	36.794	0.05	0.029	98.71	6.47067	30.97	99.358	62.309	31.822	5.869	100
Six Pak -16	core	0.029	52.215	0.1345	0	0.5121	0.0345	0.0947	9.062	0.028	0.2729	36.653	0.144	0	99.18	6.632674	30.69	99.844	61.594	32.416	5.990	100
Six Pak -17	core	0.026	51.315	0.1592	0	0.3307	0	0.1519	8.728	0.002	0.2254	37.757	0.01	0	98.706	7.739269	30.79	99.481	61.798	31.214	6.988	100
Six Pak -18	core	0.02	52.021	0.1234	0.0199	0.4022	0.0627	0.192	9.073	0.024	0.2685	36.564	0.059	0.103	98.931	6.58751	30.64	99.591	61.541	32.490	5.969	100
Six Pak -19	core	0.022	51.755	0.1223	0.0213	0.4918	0.0195	0.2275	9.357	0.022	0.2865	36.489	0.118	0.066	98.998	7.31335	29.91	99.731	59.950	33.438	6.612	100
Six Pak -21	core	0.024	51.879	0.1556	0	0.5498	0.0711	0.2779	9.342	0.04	0.2201	36.767	0.042	0.1	99.467	7.256417	30.24	100.19	60.295	33.195	6.510	100
Six Pak -22	core	0.016	52.273	0.1667	0	0.47	0.0605	0.0392	9.136	0.02	0.208	36.696	0.088	0.066	99.24	6.767882	30.61	99.918	61.296	32.606	6.098	100
Six Pak -23	core	0.012	52.488	0.1086	0	0.489	0.0597	0.0477	9.351	0.052	0.2209	36.773	0.081	0	99.683	7.110054	30.37	100.4	60.463	33.170	6.367	100
Six Pak -24	core	0.033	51.611	0.0926	0.0212	0.4393	0.0833	0.0622	9.144	0.011	0.3452	36.704	0.16	0	98.706	7.61562	29.85	99.469	60.199	32.874	6.927	100
Six Pak -25	core	0.054	51.401	0.0977	0.0174	0.5186	0.0846	0.1158	9.136	0.034	0.2064	37.064	0.101	0.053	98.882	7.950549	29.91	99.679	60.084	32.717	7.200	100
Six Pak -26	core	0.003	51.661	0.1223	0	0.4712	0	0.2077	9.137	0.023	0.3414	37.208	0.043	0.079	99.296	7.841635	30.15	100.08	60.349	32.590	7.061	100
Six Pak -27	core	0.021	51.748	0.169	0.0238	0.3164	0.1037	0.177	8.866	0.095	0.2934	37.363	0.099	0	99.276	7.378527	30.72	100.01	61.620	31.703	6.677	100
Six Pak -28	core	0.039	52.104	0.1543	0.0129	0.4423	0	0.1223	9.082	0.041	0.2811	36.882	0.066	0	99.226	6.885499	30.69	99.916	61.400	32.391	6.209	100
Six Pak -29	core	0.032	51.787	0.1717	0.0354	0.5077	0.0592	0.0786	9.284	0.023	0.2701	37.203	0.043	0	99.494	7.946999	30.05	100.29	59.868	32.981	7.151	100
Six Pak -30	core	0.01	51.775	0.0395	0	0.5659	0.0133	0.2054	9.251	0	0.2073	37.223	0.069	0.04	99.399	7.86978	30.14	100.19	60.082	32.860	7.058	100
Six Pak -31	core	0.009	51.916	0.1603	0	0.3361	0	0.3414	8.789	0.036	0.2623	37.479	0.114	0	99.443	6.837678	31.33	100.13	62.573	31.282	6.145	100
Six Pak -32	core	0.009	52.026	0.1099	0	0.4517	0.0974	0.0835	9.28	0.024	0.3361	36.406	0.078	0.003	98.903	7.051282	30.06	99.61	60.400	33.226	6.374	100
Six Pak -33	core	0.019	52.087	0.1136	0.0373	0.4437	0.0337	0.0484	9.282	0	0.2049	37.01	0.071	0.047	99.397	7.536825	30.23	100.15	60.231	32.983	6.786	100
Six Pak -34	core	0.004	51.577	0.1668	0.0483	0.558	0	0.1822	9.094	0.05	0.0804	37.107	0.1	0.029	98.998	7.440025	30.41	99.743	60.824	32.443	6.733	100
Six Pak -35	core	0.008	51.834	0.1075	0.0638	0.573	0.0644	0.1731	9.231	0	0.2199	36.862	0.063	0	99.199	7.271275	30.32	99.927	60.531	32.887	6.582	100
Six Pak -36	core	0.007	41.771	0.9952	0.1359	0.0282	0.115	0.399	3.707	0	0.2194	50.715	0.046	0.122	98.261	20.37148	32.38	100.3	67.128	13.730	19.142	100
Six Pak -37	core	0.022	51.56	0.126	0	0.4553	0.0374	0.2073	9.104	0.023	0.3636	37.08	0.024	0.013	99.016	7.647139	30.2	99.783	60.565	32.535	6.900	100
Six Pak -38	core	0.017	51.705	0.1247	0.0258	0.3433	0.0044	0.2667	9.053	0.008	0.2634	37.102	0.071	0.05	99.034	7.263198	30.57	99.762	61.150	32.292	6.558	100
Six Pak -39	core	0.009	52.314	0.0963	0	0.4056	0.0632	0.0862	9.097	0	0.2042	37.115	0.071	0.058	99.519	7.066667	30.76	100.23	61.332	32.328	6.340	100
Six Pak -40	core	0.016	52.165	0.1938	0.0077	0.4324	0.0189	0.0486	9.092	0.041	0.2339	36.994	0.081	0.129	99.452	7.177209	30.54	100.17	61.105	32.428	6.468	100
Six Pak -41	core	0.008	52.238	0.1198	0.0116	0.4803	0.0221	0.1312	9.109	0.004	0.1953	36.955	0.066	0.053	99.393	6.857089	30.79	100.08	61.435	32.400	6.166	100
Six Pak -42	core	0.027	51.26	0.1271	0.0064	0.3312	0.0571	0.2005	8.313	0	0.2381	38.473	0.09	0.024	99.147	7.834435	31.42	99.932	63.142	29.770	7.088	100
Six Pak -43	core	0.029	51.166	0.1517	0.0579	0.3382	0.1099	0.1178	8.361	0	0.2391	38.597	0.014	0	99.181	8.13277	31.28	99.995	62.711	29.906	7.382	100
Six Pak -44	core	0.032	51.1	0.148	0.0469	0.3134	0.0567	0.1486	8.304	0.014	0.2674	38.249	0.078	0	98.757	7.773459	31.25	99.536	63.036	29.873	7.091	100
Six Pak -45	core	0	51.689	0.1272	0.0193	0.3332	0.0836	0.1887	8.958	0.024	0.3189	36.898	0	0.074	98.713	7.057468	30.55	99.42	61.465	32.131	6.404	100
Six Pak -46	core	0.022	51.874	0.126	0	0.5185	0.0212	0.2582	9.181	0.061	0.1918	37.031	0.064	0.076	99.425	7.307754	30.46	100.16	60.785	32.653	6.562	100
Six Pak -47	core	0.001	51.436	0.1888	0.0032	0.3694	0.0566	0.0518	8.628	0.027	0.2944	37.831	0	0	98.887	7.774016	30.84	99.665	62.031	30.930	7.039	100
Six Pak -48	core	0.012	51.012	0.1518	0	0.3755	0.0087	0.3165	8.409	0.006	0.2452	38.262	0.055	0.116	98.969	7.897337	31.16	99.76	62.697	30.153	7.150	100
Six Pak -49	core	0.018	52.141	0.132	0.0135	0.3676	0.0626	0.0583	9.014	0.03	0.2872	36.987	0.066	0	99.178	6.991138	30.7	99.878	61.497	32.191	6.312	100
Six Pak -50	core	0.015	51.864	0.1433	0.1229	0.3562	0.0441	0.1109	8.564	0	0.3577	37.095	0.054	0.098	98.823	6.434099	31.31	99.468	63.184	30.878	5.938	100
Six Pak -51	core	0.05	51.495	0.1826	0.0109	0.3118	0.0385	0.1292	8.561	0	0.2897	37.558	0.04	0	98.666	7.079396	31.19	99.375	62.832	30.743	6.425	100
Six Pak -52	core	0.014	48.79	1.4894	0.0504	0	0.0898	0	4.761	0	1.0495	42.53	0	0.06	98.833	7.330488	35.93	99.568	75.267	17.785	6.949	100
Six Pak -53	core	0.025	51.858	0.1554	0.0219	0.2939	0.0567	0.205	8.516	0.023	0.2841	38.051	0.068	0	99.556	7.154466	31.61	100.27	63.198	30.350	6.452	100
Six Pak -54	core	0.025	52.129	0.1457	0.0187	0.3317	0	0.1122	8.998	0.022	0.2361	37.119	0.028	0.034	99.199	6.916929	30.9	99.892	61.723	32.045	6.232	100
Six Pak -55	core	0.006	51.875	0.1186	0.0541	0.4812	0.0225	0.1056	9.088	0	0.1741	36.826	0.057	0.029	98.837	6.992386	30.53	99.538	61.174	32.481	6.345	100
Six Pak -56	core	0	51.875	0.1111	0.0071	0.4494	0.0691	0.175	9.111	0.005	0.2217	36.726	0.109	0	98.86	6.944258	30.48	99.555	61.147	32.580	6.274	100
Six Pak -57	core	0.051	52.3	0.1261	0.0535	0.582	0	0.2578	9.663	0.018	0.3071	35.691	0.019	0	99.068	6.214224	30.1	99.69	60.014	34.371	5.616	100
Six Pak -58	core	0.034	51.683	0.1458	0	0.4432	0	0.174	9.172	0.035	0.2442	37.138	0.019	0.058	99.146	7.664422	30.24	99.914	60.441	32.667	6.892	100
Six Pak -59	core	0.097	51.544	0.0828	0	0.5757	0	0.4597	9.329	0.06	0.329	36.53	0.036	0	99.043	7.020914	30.21	99.747	60.430	33.252	6.318	100
Six Pak -60	core	0.022	51.233	0.1135	0	0.4248	0	0.3601	8.43	0.035	0.2372	38.405	0.054	0	99.314	7.750284	31.43	100.09	62.939	30.079	6.982	100
Six Pak -61	core	0.023	51.12	0.1605	0	0.3276	0	0.1055	8.387	0.036	0.2126	38.293	0	0.118	98.784	8.076629	31.03	99.594	62.546	30.128	7.325	100
Six Pak -62	core	0.038	51.561	0.1666	0.0547	0.2481	0.0121	0.0375	8.715	0.025	0.2921	37.863	0	0	99.013	7.818016	30.83	99.796	61.760	31.149	7.090	100
Six Pak -63	core	0.046	51.832	0.1804	0.0109	0.4292	0	0.2266	9.154	0.025	0.2928	37.102	0.05	0	99.349	7.297747	30.54	100.08	60.902	32.541	6.557	100
Six Pak -65	core	0.032	51.725	0.1346	0.0405	0.3651	0	0.2336	9.085	0	0.248	37.033	0.092	0	98.988	7.19027	30.56	99.708	61.106	32.395	6.500	100
Six Pak -66	core	0.028	51.354	0.1839	0.047	0.3315	0.0114	0.3104	8.574	0.027	0.3168	37.83	0.064	0	99.078	7.326904	31.24	99.812	62.668	30.681	6.650	100
Six Pak -67	core	0.035	52.07	0.1211	0.0335	0.4782	0.1293	0	9.279	0	0.3003	36.651	0.141	0.074	99.311	7.415406	29.98	100.05	60.107	33.177	6.716	100
Six Pak -68	core	0.026	51.619	0.1693	0.0631	0.4963	0	0.3894	9.159	0.012	0.2763	36.517	0.085	0.058	98.869	6.642524	30.54	99.535	61.208	32.753	6.039	100
Six Pak -69	core	0.025	51.797	0.1013	0.0187	0.4187	0	0.2216	9.254	0.02	0.2873	36.79	0.127	0	99.061	7.379456	30.15	99.801	60.330	33.012	6.658	100
Six Pak -70	core	0.009	51.31	0.1087	0.0129	0.4384	0.0641	0.1972	8.705	0.033	0.2879	37.414	0.155	0	98.734	7.580759	30.59	99.493	61.771	31.332	6.897	100
Six Pak -71	core	0.023	51.728	0.068	0.0374	0.497	0.132	0.1563	9.199	0.009	0.1758	37.034	0.038	0	99.098	7.516849	30.27	99.851	60.452	32.764	6.784	100
Six Pak -72	core	0.01	51.466	0.1531	0.056	0.3314	0	0.3628	8.594	0.048	0.2207	37.822	0.064	0.034	99.162	7.162703	31.38	99.879	62.813	30.692	6.495	100
Six Pak -73	core	0.026	51.607	0.1248	0	0.4846	0.142	0.0629	9.049	0.023	0.2417	36.76	0.047	0.05	98.617	7.306591	30.19	99.349	60.861	32.511	6.628	100
Six Pak -74	core	0.04	51.522	0.0951	0.0283	0.3217	0.1611	0.1591	8.954	0.078	0.2435	36.98	0.071	0.003	98.656	7.337524	30.38	99.391	61.177	32.152	6.671	100
Six Pak -75	core	0.018	51.527	0.1125	0.0271	0.519	0	0.1708	9.055	0.025	0.2744	37.186	0.045	0.1	99.06	7.77666	30.19	99.839	60.568	32.391	7.041	100
Six Pak -76	core	0.033	52.39	0.1273	0.0496	0.4319	0.0405	0.1594	9.298	0.081	0.2266	36.541	0.113	0.034	99.524	6.677671	30.53	100.19	60.892	33.078	6.030	100
Six Pak -77	core	0	51.976	0.147	0.0251	0.4132	0.0654	0.161	8.93	0.024	0.3569	37.255	0.076	0.121	99.55	7.302956	30.68	100.28	61.489	31.907	6.604	100
Six Pak -78	core	0.013	51.934	0.1716	0.074	0.4246	0	0.1169	8.956	0.02	0.1759	36.687	0.035	0.029	98.637	6.416966	30.91	99.28	62.059	32.088	5.853	100
Six Pak -79	core	0	51.78	0.1632	0	0.4502	0.0616	0.1465	9.291	0.024	0.2869	36.764	0.08	0.063	99.111	7.561532	29.96	99.869	60.019	33.166	6.815	100
Six Pak -80	core	0.015	51.329	0.2013	0.0019	0.3197	0.0026	0.2173	8.636	0	0.4056	37.859	0.024	0.037	99.048	7.753583	30.88	99.825	62.062	30.927	7.012	100
Six Pak -81	core	0.027	51.614	0.1962	0	0.3698	0.0592	0.2281	8.653	0	0.2814	37.273	0.063	0	98.764	6.689528	31.25	99.434	62.906	31.036	6.058	100
Six Pak -82	core	0.033	51.832	0.1124	0	0.4296	0	0.1997	9.12	0.049	0.2882	36.952	0.089	0.008	99.112	7.296017	30.39	99.843	60.869	32.556	6.575	100
Six Pak -83	core	0.016	51.484	0.1506	0.0328	0.3888	0.021	0.2662	8.903	0	0.3032	37.282	0.069	0	98.916	7.334019	30.68	99.651	61.524	31.834	6.642	100

Six-Pak Ilmenite

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
Six Pak -84	core	0.03	51.712	0.1582	0.0361	0.5721	0.1521	0.1117	9.469	0.025	0.2735	36.326	0.062	0.008	98.935	7.406287	29.66	99.677	59.449	33.844	6.707	100
Six Pak -85	core	1E-04	49.442	0.6176	0	0	0	0.1733	5.364	0.029	0.8323	42.662	0.033	0	99.152	8.58927	34.93	100.01	72.242	19.766	7.992	100
Six Pak -86	core	0.007	51.622	0.1235	0	0.3145	0.0937	0.0115	8.747	0.005	0.2631	37.403	0.043	0	98.634	7.474517	30.68	99.382	61.815	31.409	6.776	100
Six Pak -87	core	0.026	51.9	0.1074	0.0174	0.421	0	0.3821	9.082	0.016	0.2161	36.896	0.085	0.055	99.204	6.686978	30.88	99.874	61.654	32.325	6.020	100
Six Pak -88	core	0.021	51.879	0.1309	0.02	0.4122	0.0155	0.1792	9.045	0.014	0.2789	36.839	0.047	0.024	98.905	6.899359	30.63	99.596	61.425	32.335	6.240	100
Six Pak -89	core	0.033	51.879	0.1384	0.0464	0.5479	0.0282	0.1675	9.145	0	0.2158	37.033	0.03	0	99.263	7.155901	30.59	99.98	61.012	32.531	6.457	100
Six Pak -90	core	0.039	52.113	0.1666	0.009	0.4859	0	0.1239	8.87	0.014	0.2577	37.709	0.031	0	99.819	7.259747	31.18	100.55	62.037	31.457	6.506	100
Six Pak -91	core	0.009	51.583	0.1259	0.0026	0.3379	0	0.2971	8.611	0.015	0.2551	37.584	0.031	0	98.852	6.926014	31.35	99.546	62.936	30.807	6.257	100
Six Pak -92	core	0.009	41.991	1.0399	0.1404	0	0.1912	0.3276	3.775	0.005	0.2595	49.87	0.023	0.099	97.729	19.41583	32.4	99.674	67.568	14.068	18.364	100
Six Pak -93	core	0.016	51.876	0.1223	0.0167	0.442	0.1068	0.3189	9.06	0.018	0.2633	36.975	0.045	0.095	99.355	6.915759	30.75	100.05	61.478	32.288	6.233	100
Six Pak -94	core	0.034	51.766	0.1248	0.0006	0.4876	0.0454	0.2924	9.047	0	0.1638	37.067	0.056	0	99.084	6.911577	30.85	99.777	61.598	32.192	6.210	100
Six Pak -95	core	0.014	51.685	0.1679	0	0.3997	0.0961	0.3046	8.697	0	0.1535	37.902	0	0.047	99.467	7.158328	31.46	100.18	62.696	30.886	6.418	100
Six Pak -96	core	0.022	51.713	0.1197	0.0669	0.396	0.0709	0.1767	8.32	0	0.2472	38.275	0.042	0	99.449	7.123711	31.86	100.16	63.803	29.728	6.470	100
Six Pak -97	core	0.041	51.753	0.115	0.058	0.4647	0.0371	0.1515	9.341	0.06	0.2935	36.412	0.085	0.034	98.846	7.284833	29.86	99.575	59.924	33.452	6.624	100
Six Pak -98	core	0.013	51.907	0.1728	0.0142	0.3224	0.0355	0.1795	8.653	0.037	0.3331	37.645	0.08	0.013	99.404	7.071225	31.28	100.11	62.699	30.913	6.388	100
Six Pak -99	core	0.022	50.942	0.1519	0.0425	0.3155	0.0696	0.0698	8.095	0.042	0.3095	38.386	0.055	0.047	98.55	7.931049	31.25	99.344	63.422	29.302	7.276	100
Six Pak -100	core	0.021	41.511	0.6756	0.0942	0	1.2637	0.5815	4.018	0.007	0.18	49.76	0.012	0.122	98.245	20.18789	31.59	100.27	65.961	14.977	19.063	100

Six-Pak Amphibole

Sample	SiO_2	TiO_2	Al_2O_3	Cr_2O_3	MgO	CaO	MnO	FeO	NiO	Na_2O	K_2O	Total
Six Pak -1	51.82	0.1271	5.06871	1.5202	21.314	9.359	0.0599	3.304	0.095	4.7377	0.511	97.916
Six Pak -2	51.852	0.221	6.01367	0.4355	21.128	9.094	0.0783	4.732	0.068	4.4748	0.253	98.351
Six Pak -4	42.085	1.6073	14.5818	0.1398	14.808	11.12	0.0579	9.087	0.009	2.7911	1.991	98.281
Six Pak -5	53.276	0.0993	3.59442	0.9784	21.709	8.45	0.0926	3.337	0.085	5.2288	0.529	97.379
Six Pak -6	52.048	0.0125	5.13478	1.5406	21.017	8.984	0.0527	3.221	0.074	5.1664	0.465	97.716
Six Pak -7	52.775	0.1971	4.13146	1.2554	21.645	8.576	0.0542	3.021	0.073	5.3771	0.525	97.63
Six Pak -8	52.683	0.1073	4.3916	1.118	21.56	8.853	0.067	3.81	0.058	4.7184	0.508	97.874
Six Pak -9	54.609	0.2944	2.4425	0.26	21.855	6.898	0.0498	4.011	0.021	6.0651	1.282	97.787
Six Pak -10	46.31	0.3612	9.14434	0.2187	17.307	10.8	0.1697	9.045	0.041	3.2748	0.871	97.543
Six Pak -11	52.666	0.1131	4.30736	1.3376	21.565	8.9	0.1111	3.443	0.046	4.7907	0.519	97.798
Six Pak -12	55.51	0.1526	1.86506	1.3711	22.005	6.528	0.0599	2.306	0.144	5.9215	1.866	97.728
Six Pak -13	50.453	0.0106	6.67566	1.2429	21.136	10.87	0.0028	3.096	0.098	3.5947	0.289	97.467
Six Pak -14	49.638	0.0417	7.1252	1.7813	21.023	10.22	0.074	3.506	0.119	4.007	0.481	98.018
Six Pak -15	55	0.212	2.49538	0.7995	22.01	7.13	0.0414	2.973	0.101	6.5293	0.546	97.836
Six Pak -16	49.672	0.1928	7.80159	1.663	20.685	11.04	0.0826	3.279	0.056	3.3844	0.389	98.249
Six Pak -17	52.6	0.1002	4.68798	1.3415	21.682	9.341	0.0527	3.533	0.139	4.2669	0.46	98.205
Six Pak -18	54.842	0.2459	2.46828	0.1352	21.325	7.192	0.0968	5.102	0.04	6.1059	0.541	98.095
Six Pak -19	49.591	0.0048	7.38413	1.828	20.806	10.75	0.1281	3.48	0.124	3.6461	0.416	98.154
Six Pak -20	53.89	0.3648	3.28789	0.4826	21.294	8.041	0.0342	4.635	0.052	5.6825	0.525	98.289
Six Pak -21	52.866	0.5751	4.31954	1.1914	21.376	9.099	0.0685	3.243	0.052	4.7527	0.558	98.101
Six Pak -23	49.095	0.0445	8.10711	1.7873	20.567	10.44	0.0584	3.588	0.099	3.9251	0.402	98.113
Six Pak -24	49.308	0.158	7.93669	2.1453	20.597	9.38	0.0228	3.033	0.096	4.2798	0.966	97.922
Six Pak -25	51.636	0.2054	6.09731	1.2749	20.761	7.935	0.0855	3.681	0.036	5.6023	0.802	98.116
Six Pak -26	45.362	0.2328	12.53	1.1314	18.973	11.18	0.0441	4.105	0.115	3.4481	0.467	97.592
Six Pak -27	52.197	0.2412	4.29345	1.5979	21.78	9.241	0.0514	2.178	0.037	5.0953	0.995	97.707
Six Pak -28	53.716	0.0484	3.76971	1.5579	21.415	7.89	0.0684	2.918	0.053	6.0497	0.398	97.885
Six Pak -29	43.788	2.1905	14.6738	0.5409	16.991	11.31	0.0327	4.346	0.064	3.0566	1.55	98.537
Six Pak -30	55.168	0.1457	2.47203	1.2294	21.741	6.755	0.01	2.93	0.054	6.7488	0.598	97.851
Six Pak -31	52.091	0.6205	4.6759	0.3581	21.441	9.259	0.1097	4.216	0.065	4.7536	0.521	98.11
Six Pak -33	49.33	0.3163	7.46421	0.5649	20.625	11.34	0.0754	4.336	0.056	3.3178	0.627	98.054
Six Pak -34	54.034	0.3823	3.02531	0.852	21.311	7.64	0.0756	3.667	0.07	6.2388	0.621	97.916
Six Pak -35	54.101	0.5396	3.30738	0.5723	21.967	7.789	0.0869	3.397	0.095	5.6746	0.753	98.283
Six Pak -36	52.646	0.1759	4.62688	1.3091	21.39	8.925	0.0884	3.374	0.119	4.8231	0.611	98.087
Six Pak -37	55.333	0.6229	1.98564	0.8501	22.63	7.258	0.0429	1.443	0.019	5.3021	2.466	97.953
Six Pak -38	53.328	0.0892	3.81478	1.2949	21.708	8.639	0.0926	3.073	0.092	5.0485	0.544	97.722
Six Pak -39	50.022	0.2266	6.94189	1.0273	20.729	10.69	0.0513	3.535	0.092	3.8072	0.518	97.644
Six Pak -40	51.878	0.1958	5.11824	1.3058	21.51	9.777	0.124	3.2	0.059	4.3031	0.46	97.93
Six Pak -41	50.349	0.2154	7.02847	0.9756	20.99	10.41	0.0769	3.916	0.052	3.8941	0.433	98.338
Six Pak -42	55.122	0.2688	2.2941	0.7565	21.498	6.235	0.0712	4.049	0.083	6.9446	0.542	97.865
Six Pak -43	49.315	0.2154	7.99099	2.2019	20.509	9.37	0.0712	3.07	0.15	4.4153	0.903	98.212
Six Pak -44	49.002	0.0306	8.73062	2.2517	20.545	9.342	0.0498	3.082	0.107	4.3828	0.692	98.214
Six Pak -45	52.769	0.241	4.32187	1.2663	21.739	8.838	0.0699	2.837	0.129	4.3998	1.231	97.841
Six Pak -46	47.473	0.0329	10.6499	2.6196	19.848	8.427	0.1094	3.324	0.126	4.9645	0.298	97.873
Six Pak -47	48.171	0.1572	8.31244	1.868	20.464	10.92	0.0769	3.394	0.087	3.9047	0.42	97.774
Six Pak -48	44.138	2.0431	12.8482	0.8622	16.322	10.52	0.0765	6.755	0.125	3.4072	1.666	98.758
Six Pak -49	53.405	0.1735	3.93505	1.7416	21.43	7.153	0.0328	2.55	0.019	5.9626	1.234	97.637
Six Pak -50	50.334	0.094	6.52198	1.7587	20.804	10.14	0.0229	3.247	0.089	4.2148	0.497	97.719
Six Pak -51	53.569	0.2207	3.57757	1.0218	21.733	7.921	0.0543	2.944	0.021	6.1547	0.66	97.876
Six Pak -52	44.869	0.1016	13.0452	2.0352	18.964	11.15	0.0242	3.194	0.114	3.4607	0.637	97.598
Six Pak -53	52.541	0.0743	4.87027	1.2878	21.444	9.333	0.0599	3.646	0.125	4.4478	0.463	98.29
Six Pak -54	53.417	0.0705	3.81924	1.3651	21.533	8.716	0.0727	3.112	0.041	4.9456	0.577	97.67
Six Pak -55	53.393	0.2742	3.59432	1.3153	21.803	8.561	0.057	3.172	0.104	5.0416	0.546	97.861
Six Pak -56	55.962	0.404	1.38527	0.3416	22.429	7.665	0.0713	2.897	0.036	4.2308	3.099	98.521
Six Pak -57	49.239	0.0369	8.11878	1.8155	20.787	10.99	0.0656	3.35	0.111	3.5709	0.372	98.461
Six Pak -58	54.438	0.3204	3.08489	1.3488	21.668	7.003	0.04	2.559	0.055	6.0828	1.209	97.809
Six Pak -59	54.894	0.1247	3.14691	1.46	22.048	8.306	0.0514	2.961	0.068	4.9743	0.597	98.632
Six Pak -60	48.244	0.0383	9.06283	1.8667	20.306	10.84	0.0768	3.51	0.127	3.4912	0.4	97.959
Six Pak -61	49.725	0.0877	7.69735	1.6592	20.673	10.83	0.0811	3.675	0.098	3.5455	0.422	98.495
Six Pak -62	48.911	0.4708	8.50144	0.6225	20.43	11.22	0.1196	3.977	0.098	3.3537	0.466	98.167

Six-Pak Amphibole

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Six Pak -63	52.434	0.399	5.0007	1.4531	21.533	8.02	0.0556	2.641	0.056	5.3073	1	97.9
Six Pak -64	52.017	0.2657	5.49054	1.9872	21.439	8.783	0.0656	2.494	0.138	4.6295	1.195	98.505
Six Pak -65	53.353	0.4702	3.68415	0.3918	21.198	8.068	0	4.333	0.082	5.8507	0.754	98.185
Six Pak -66	49.758	0.0446	7.17727	1.8243	20.998	10.45	0.0499	3.284	0.153	3.795	0.525	98.064
Six Pak -67	47.58	0.1211	10.0004	2.4477	20.139	9.944	0.0783	2.925	0.111	4.1719	0.683	98.201
Six Pak -68	50.171	0.0527	7.01507	1.751	20.797	9.729	0.0328	3.007	0.086	5.1244	0.41	98.175
Six Pak -69	46.434	0.0637	11.7714	1.8554	19.648	10.56	0.0569	3.502	0.149	3.9682	0.37	98.382
Six Pak -70	55.216	0.3237	0.69842	0.0203	20.523	6.769	0.0654	5.549	0.009	3.8123	5.18	98.166
Six Pak -71	50.031	0.6078	7.11322	2.2584	20.545	8.938	0.0129	2.629	0.016	5.0882	0.947	98.185
Six Pak -72	47.359	0.1159	10.124	2.2542	20.207	10.31	0.0739	2.929	0.099	3.9202	0.863	98.253
Six Pak -73	51.05	0.0628	6.23687	1.8285	20.949	9.571	0.0413	3.327	0.062	4.4053	0.556	98.089
Six Pak -74	49.303	0.0743	7.76911	1.819	20.622	10.52	0.064	3.499	0.059	3.8356	0.377	97.947
Six Pak -75	50.728	0.0417	6.19729	1.6739	21.341	10.13	0.0656	3.439	0.047	3.9734	0.354	97.996
Six Pak -76	48.003	0.8363	8.16415	0.7068	20.058	10.98	0.0228	4.074	0.112	4.1862	0.831	97.978
Six Pak -77	46.495	0.1312	10.7683	2.49	19.676	10.47	0.0497	3.299	0.133	3.7337	0.847	98.098
Six Pak -78	50.671	0.0815	6.77898	1.8419	21.02	9.957	0.0399	3.323	0.077	4.4151	0.471	98.676
Six Pak -79	54.61	0.2928	2.67483	0.6116	21.876	8.03	0.0969	3.494	0.083	5.3727	0.753	97.894
Six Pak -80	53.148	0.5538	3.96094	1.3321	21.372	8.423	0.0584	3.136	0.096	4.8628	1.33	98.274
Six Pak -81	53.355	0.4454	3.75712	0.7861	21.33	7.803	0.0797	4.278	0.032	6.1095	0.645	98.62
Six Pak -82	55.803	0.3288	1.98808	0.7323	21.941	6.245	0.0713	3.544	0.059	6.8887	0.701	98.302
Six Pak -83	48.883	0.0924	8.80776	2.4603	20.396	9.423	0.0569	2.934	0.099	4.4372	0.721	98.311
Six Pak -85	49.652	0.9388	7.01253	1.5677	20.49	9.579	0.0528	3.896	0.064	4.2787	0.924	98.456
Six Pak -86	53.231	0.1202	3.97494	0.9756	21.913	8.901	0.0286	2.955	0.07	5.5498	0.429	98.148
Six Pak -87	52.266	0.0182	4.99116	1.6559	21.367	9.375	0.0357	3.03	0.09	4.5799	0.456	97.866
Six Pak -88	50.348	0.0979	6.63597	1.5454	20.891	10.43	0.1012	3.537	0.086	3.9032	0.448	98.018
Six Pak -89	54.868	0.2059	2.61413	0.778	22.044	7.963	0.0528	3.478	0.11	5.4096	0.74	98.263
Six Pak -90	53.012	0.4827	3.93536	0.6614	20.933	7.541	0.0598	4.569	0.089	6.2601	0.558	98.101
Six Pak -91	49.415	0.0896	7.06176	1.7816	20.622	10.56	0.0712	3.416	0.12	4.0936	0.446	97.676
Six Pak -92	49.818	0.0882	7.03618	1.7819	20.457	9.909	0.1025	3.437	0.071	4.4855	0.444	97.631
Six Pak -93	48.097	0.1174	9.24208	1.6094	20.179	11.09	0.0484	3.783	0.155	3.7527	0.409	98.481
Six Pak -94	44.549	0.8618	13.3249	2.1593	19.349	11.26	0.0526	2.838	0.114	3.7183	0.292	98.52

Tango-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Tango-1 -1	dk purple	41.567	0.271	19.5615	5.4605	19.988	5.063	0.4383	7.629	0.01	0.0566	0	100.04
Tango-1 -2	dk purple	41.562	0.2325	20.1985	4.5197	20.311	4.815	0.4032	7.842	0	0.0264	0.006	99.916
Tango-1 -3	dk purple	41.153	0.1434	18.2589	7.2823	19.293	5.909	0.4147	7.445	0.041	0.035	0.02	99.994
Tango-1 -4	dk purple	40.89	0.1941	17.2798	7.9282	18.749	6.154	0.4853	7.809	0.04	0.0445	0.009	99.583
Tango-1 -5	dk purple	41.098	0.1427	17.971	7.428	19.184	5.804	0.459	7.943	0.026	0.0406	0	100.1
Tango-1 -6	dk purple	41.555	0.292	19.7913	5.1552	20.206	5.066	0.4828	7.679	0	0.0418	0	100.27
Tango-1 -7	dk purple	41.713	0.244	20.5886	3.7167	20.469	4.608	0.419	7.838	0	0.0423	0.005	99.643
Tango-1 -8	dk purple	40.994	0.3379	17.1717	8.292	19.13	5.838	0.3832	7.561	0.038	0.0537	0	99.799
Tango-1 -9	dk purple	41.371	0.2639	18.9617	5.9253	19.659	5.163	0.4585	7.871	0	0.0567	0	99.731
Tango-1 -10	dk purple	41.79	0.168	20.5206	4.0843	19.907	5.014	0.4675	8.119	0.035	0.0345	0	100.14
Tango-1 -11	dk purple	41.66	0.2346	20.671	3.9516	20.749	4.573	0.3444	7.75	0	0.0443	0.003	99.98
Tango-1 -12	dk purple	41.132	0.2824	18.4602	6.5286	19.821	5.638	0.3916	7.201	0.025	0.0494	0	99.529
Tango-1 -13	dk purple	41.281	0.151	18.219	6.7441	19.588	5.726	0.4191	7.489	0	0.028	0	99.645
Tango-1 -14	dk purple	41.083	0.2363	17.4602	7.9061	18.937	6.048	0.425	8.108	0.012	0.0324	0	100.25
Tango-1 -15	dk purple	41.365	0.1964	18.0712	7.4298	19.934	5.305	0.4121	7.661	0	0.0432	0	100.42
Tango-1 -16	dk purple	41.188	0.1218	18.0414	7.333	19.332	5.896	0.4788	7.829	0.006	0.0242	0.003	100.25
Tango-1 -17	dk purple	41.093	0.1645	17.4057	8.076	19.473	5.702	0.4338	7.5	0	0.0383	0	99.886
Tango-1 -18	dk purple	41.615	0.2429	19.0458	5.9653	19.979	5.292	0.4086	7.642	0	0.0601	0	100.25
Tango-1 -19	dk purple	41.37	0.1749	18.7181	6.5243	19.707	5.551	0.3759	7.331	0	0.0231	0	99.775
Tango-1 -20	dk purple	41.538	0.0238	20.0146	4.9661	19.847	5.044	0.5403	7.91	0	0.0261	0	99.91
Tango-1 -21	dk purple	41.616	0.1552	18.4367	6.9922	19.7	5.498	0.4769	7.455	0.057	0.0423	0.002	100.43
Tango-1 -22	dk purple	41.522	0.2306	20.2203	4.3852	19.84	4.987	0.403	8.004	0	0.0511	0.008	99.651
Tango-1 -23	dk purple	41.259	0.1761	18.6509	6.5811	19.619	5.471	0.4822	7.915	0.001	0.0247	0	100.18
Tango-1 -24	dk purple	41.322	0.1209	18.6963	6.6719	20.16	5.339	0.4031	6.88	0.035	0.0362	0.029	99.694
Tango-1 -25	dk purple	41.587	0.2112	19.9254	4.7711	20.03	4.92	0.3829	8.01	0.03	0.0467	0	99.915
Tango-1 -26	dk purple	40.728	0.0858	16.7285	8.8777	17.998	6.673	0.4905	8.055	0	0.022	0	99.658
Tango-1 -27	dk purple	41.591	0.1766	19.9319	5.0116	19.706	5.18	0.4336	8.181	0.047	0.0349	0.017	100.31
Tango-1 -28	dk purple	41.348	0.1906	17.409	8.088	19.379	5.818	0.4733	7.219	0	0.0438	0	99.968
Tango-1 -29	dk purple	41.156	0.1595	17.5108	8.0423	19.434	5.604	0.43	7.267	0.035	0.0474	0	99.687
Tango-1 -30	dk purple	40.945	0.118	16.9121	8.7115	18.902	6.268	0.4871	7.637	0	0.0282	0	100.01
Tango-1 -31	dk purple	41.755	0.2049	19.8489	4.9098	20.41	4.985	0.3849	7.72	0.028	0.051	0	100.3
Tango-1 -32	dk purple	41.415	0.2689	19.0659	5.8651	19.565	5.214	0.438	7.823	0.004	0.0324	0	99.691
Tango-1 -33	dk purple	41.561	0.1035	18.4943	6.8649	19.302	5.792	0.474	7.628	0.092	0.0218	0	100.33
Tango-1 -34	dk purple	41.338	0.141	17.8481	8.0384	19.545	5.646	0.4765	7.236	0.035	0.0485	0	100.35
Tango-1 -35	dk purple	41.161	0.1472	16.7582	8.7975	18.873	6.382	0.4156	7.806	0.004	0.0329	0	100.38
Tango-1 -36	dk purple	41.474	0.193	19.0798	5.8999	19.913	5.454	0.4452	7.571	0	0.0406	0.009	100.08
Tango-1 -37	dk purple	41.542	0.0769	18.3472	7.1892	20.159	5.361	0.3718	7.015	0.022	0.0308	0.009	100.12
Tango-1 -38	dk purple	41.537	0.1758	19.4108	5.1748	20.022	5.195	0.479	7.833	0.021	0.027	0	99.875
Tango-1 -39	dk purple	41.586	0.2226	19.3726	5.3857	19.807	5.299	0.4061	7.724	0.009	0.0412	0	99.853
Tango-1 -40	dk purple	41.067	0.2995	18.4578	6.566	19.602	5.426	0.3888	7.584	0.026	0.0823	0.006	99.506
Tango-1 -41	dk purple	41.406	0.2331	18.9718	5.9731	20.031	5.258	0.4213	7.514	0	0.072	0	99.881
Tango-1 -42	dk purple	41.852	0.2607	19.734	4.9331	20.043	5.1	0.4259	7.855	0.071	0.0498	0.047	100.37
Tango-1 -43	dk purple	41.233	0.2306	17.4761	8.0284	19.267	5.842	0.4594	7.688	0.044	0.0471	0	100.32
Tango-1 -44	dk purple	41.241	0.3082	18.9841	5.9411	19.94	5.167	0.3721	7.635	0.029	0.0623	0	99.68
Tango-1 -45	dk purple	41.401	0.2074	18.4053	7.1306	19.447	5.67	0.4362	7.756	0	0.0346	0.001	100.49
Tango-1 -46	dk purple	41.524	0.1508	18.7626	6.7449	20.026	5.312	0.4312	7.181	0	0.0408	0	100.17
Tango-1 -47	dk purple	41.734	0.0295	20.389	4.7312	19.545	5.125	0.458	8.222	0.019	0.0249	0	100.28
Tango-1 -48	dk purple	40.707	0.0697	16.956	8.8399	18.2	6.594	0.4662	7.882	0.023	0.0141	0	99.752
Tango-1 -49	dk purple	41.495	0.2884	18.2577	6.8789	19.504	5.805	0.4169	7.865	0.016	0.046	0.031	100.6
Tango-1 -50	dk purple	41.054	0.1542	18.0787	7.4312	19.428	5.848	0.4161	7.375	0.003	0.0209	0	99.809
Tango-1 -51	dk purple	41.247	0.2378	19.1654	5.9756	19.746	5.225	0.4004	7.835	0.01	0.0512	0.01	99.903
Tango-1 -52	dk purple	41.909	0	20.9915	3.6336	20.226	4.733	0.4847	7.975	0	0.0255	0	99.978
Tango-1 -53	dk purple	41.477	0	20.3714	4.5517	18.132	6.147	0.6604	9.013	0	0.0164	0.027	100.4
Tango-1 -54	dk purple	41.458	0.251	18.6956	6.3949	19.404	5.436	0.4491	7.973	0	0.0449	0	100.11
Tango-1 -55	dk purple	41.204	0.1975	18.4166	6.8884	20.05	5.23	0.4104	7.186	0	0.0474	0.006	99.637
Tango-1 -56	dk purple	41.141	0.1129	17.1668	8.4593	18.856	6.23	0.4549	7.902	0.045	0.0401	0	100.41
Tango-1 -57	dk purple	41.316	0.1622	17.8409	7.6208	19.713	5.54	0.3831	7.403	0.003	0.0286	0	100.01
Tango-1 -58	dk purple	41.227	0.3174	17.2199	8.168	19.367	5.935	0.443	7.705	0.01	0.0518	0	100.44
Tango-1 -59	purple	41.323	0	20.1367	4.8248	18.803	6.087	0.5226	8.04	0.032	0.0177	0	99.786

Tango-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Tango-1 -60	purple	41.672	0.059	21.3924	3.1347	19.43	4.863	0.5721	9.051	0.009	0.0191	0	100.2
Tango-1 -61	purple	41.545	0.0108	20.218	4.4603	19.115	5.426	0.5374	8.235	0	0.0152	0	99.564
Tango-1 -62	purple	41.306	0.2699	18.7288	6.2066	19.83	5.427	0.4156	7.641	0.003	0.0553	0	99.882
Tango-1 -63	purple	41.385	0	20.0929	5.0899	19.133	5.765	0.5413	8.052	0	0.0088	0	100.07
Tango-1 -64	purple	42.076	0.1784	21.3313	3.1125	21.343	4.161	0.4473	7.257	0.021	0.0523	0.022	100
Tango-1 -65	purple	41.492	0.0347	21.8065	2.4079	18.262	5.579	0.4895	9.744	0	0.01	0	99.825
Tango-1 -66	purple	41.281	0.1351	17.5301	8.1618	20.224	4.443	0.4623	7.815	0.025	0.048	0	100.13
Tango-1 -67	purple	42.008	0.0056	21.113	3.4324	20.15	4.298	0.5721	8.03	0	0.0142	0	99.623
Tango-1 -68	purple	41.409	0.2725	19.7189	4.8962	20.055	5.121	0.4247	7.949	0.028	0.0451	0.017	99.936
Tango-1 -69	purple	41.433	0.0103	20.3155	4.6793	19.243	5.572	0.5275	8.059	0.032	0.0175	0	99.889
Tango-1 -70	purple	41.181	0.1319	18.7952	6.3138	19.735	5.487	0.4457	7.353	0	0.0261	0	99.47
Tango-1 -71	purple	41.588	0	20.8128	4.1432	20.011	4.82	0.4659	7.881	0	0.0314	0	99.754
Tango-1 -72	purple	42.005	0.2194	19.939	4.9025	20.587	5.006	0.4054	7.272	0.002	0.0375	0.01	100.39
Tango-1 -73	purple	41.393	0.2244	19.1969	5.9267	19.903	4.908	0.4105	7.782	0.019	0.0703	0	99.835
Tango-1 -74	purple	41.89	0	21.4457	3.2644	19.611	5.032	0.5309	8.442	0	0.0091	0.01	100.23
Tango-1 -75	purple	41.633	0.0321	20.8377	3.9715	20.226	4.734	0.4631	7.763	0	0.0122	0	99.673
Tango-1 -76	purple	41.468	0.0295	21.0067	3.8972	19.739	4.723	0.4562	8.268	0	0.0203	0	99.607
Tango-1 -77	purple	41.909	0.1912	21.6361	2.5752	20.926	4.385	0.4206	7.691	0	0.0361	0	99.771
Tango-1 -78	purple	41.714	0.024	21.0885	3.7336	20.036	4.906	0.5015	7.759	0.048	0.0169	0.035	99.862
Tango-1 -79	purple	42.025	0	21.5254	3.2997	19.557	5.191	0.5564	8.308	0	0.0134	8E-04	100.48
Tango-1 -80	purple	41.631	0.0197	21.0286	3.7118	20.222	4.758	0.434	7.83	0.004	0.0336	0.047	99.72
Tango-1 -81	purple	41.451	0.2197	18.5981	6.4642	20.814	3.781	0.4118	7.53	0.001	0.0767	0	99.347
Tango-1 -82	purple	41.701	0.1218	20.6415	4.2143	20.9	4.721	0.3245	6.991	0	0.0445	0.003	99.662
Tango-1 -83	purple	41.573	0.0521	19.5538	4.574	19.418	5.583	0.3903	7.967	0.009	0.0088	0.003	99.131
Tango-1 -84	purple	41.629	0.0244	20.4302	2.9767	18.632	6.06	0.4664	8.542	0	0.0164	0	98.776
Tango-1 -85	purple	41.839	0.0587	20.8327	3.9777	20.203	4.77	0.444	7.874	0	0.0299	0	100.03
Tango-1 -86	purple	41.824	0	21.1791	3.1184	20.285	4.767	0.377	7.717	0	0.0166	0	99.284
Tango-1 -87	purple	41.884	0.0594	21.0408	2.3549	20.24	5.005	0.2923	7.508	0.047	0.0133	0.042	98.487
Tango-1 -88	purple	41.53	0	20.8971	3.3221	19.782	4.823	0.4273	8.359	0.027	0.0278	0	99.194
Tango-1 -89	purple	42.098	0.0236	22.9068	1.2237	19.54	4.667	0.3372	9.839	0.009	0.0091	0	100.65
Tango-1 -90	purple	41.859	0.0061	21.191	3.5862	19.448	5.167	0.5651	8.631	0.021	0.0131	0	100.49
Tango-1 -91	purple	41.611	0.0019	21.0455	3.6337	19.432	5.342	0.5694	8.254	0	0.0118	0.028	99.929
Tango-1 -92	purple	41.614	0.0164	20.4343	4.4032	19.758	4.775	0.5618	8.389	0.055	0.0162	0	100.02
Tango-1 -93	purple	41.756	0.0033	21.1074	3.6251	19.421	5.251	0.6096	8.579	0.006	0.0127	0	100.37
Tango-1 -94	purple	41.858	0	21.5309	2.9842	19.665	5.016	0.5714	8.251	0.006	0.0064	0	99.888
Tango-1 -95	purple	41.809	0.0225	20.94	3.9362	19.749	4.693	0.5004	8.278	0.022	0.0203	0.017	99.987
Tango-1 -96	purple	42.013	0.0028	21.0396	3.7087	20.15	4.623	0.3579	8.087	0.005	0.0268	0.017	100.03
Tango-1 -97	purple	41.615	0.0188	21.5015	2.995	19.661	5.045	0.5679	8.396	0.021	0.0118	0.064	99.898
Tango-1 -98	purple	41.968	0.0259	21.7846	2.7803	20.209	4.787	0.5464	7.842	0.025	0.0148	8E-04	99.983
Tango-1 -99	purple	41.692	0.2167	20.3941	4.1402	20.049	4.746	0.4211	8.291	0.049	0.0436	0.012	100.05
Tango-1 -100	purple	41.338	0.0582	19.0658	6.0738	19.359	5.614	0.5296	7.92	0.032	0.0181	0	100.01
Tango-1 -101	purple	41.698	0.0066	21.3162	3.5993	19.902	5.008	0.5899	8.312	0.031	0.0118	0.005	100.48
Tango-1 -102	purple	41.708	0.0286	20.9872	3.9961	19.978	4.815	0.4971	8.367	0.059	0.0174	0	100.45
Tango-1 -103	purple	41.635	0.0352	21.7685	2.9193	19.36	4.936	0.6273	8.871	0	0.0271	0	100.18
Tango-1 -104	purple	41.659	0.2367	19.9862	4.3745	20.366	4.996	0.3271	7.78	0	0.0457	0	99.771
Tango-1 -105	purple	41.649	0.2135	18.9283	6.2986	21.091	3.65	0.4122	7.487	0.022	0.07	0	99.822
Tango-1 -106	purple	41.808	0.0183	21.1951	3.5338	20.222	4.775	0.5331	8.152	0	0.0336	0	100.27
Tango-1 -107	purple	42.23	0.2187	21.6915	2.6012	20.867	4.412	0.4323	7.738	0	0.0316	0	100.22
Tango-1 -108	purple	41.8	0	21.8121	2.9099	19.721	4.915	0.6203	8.658	0.034	0.024	0	100.49
Tango-1 -109	purple	41.836	0.2437	19.8944	4.5934	20.246	4.996	0.3976	7.585	0.021	0.0429	0	99.855
Tango-1 -110	purple	41.667	0.03	20.8439	4.0478	20.355	4.518	0.53	8.076	0	0.03	0.015	100.11
Tango-1 -111	purple	40.962	0.2217	17.3234	7.9446	18.703	6.122	0.5164	8.067	0.018	0.043	0	99.92
Tango-1 -112	purple	41.716	0.1791	19.4163	5.3523	20.169	5.228	0.4084	7.597	0.041	0.0241	0	100.13
Tango-1 -113	purple	41.972	0	21.111	3.6918	20.197	4.655	0.4682	8.111	0.019	0.0237	0	100.25
Tango-1 -114	purple	41.545	0.0019	20.7062	4.302	18.927	5.771	0.5693	7.896	0	0.0148	0	99.733
Tango-1 -115	purple	41.675	0.0414	21.6005	3.2876	19.952	4.875	0.5473	8.021	0	0.0187	0.003	100.02
Tango-1 -116	purple	41.572	0.1316	19.5971	5.359	19.782	5.234	0.4703	7.985	0.022	0.0361	0	100.19
Tango-1 -117	purple	41.594	0.2055	18.9211	5.9759	20.578	4.027	0.4304	8.109	0.025	0.0583	0	99.924
Tango-1 -118	purple	41.723	0.185	20.4941	4.0567	20.13	4.961	0.4623	8.219	0	0.0489	0.002	100.28

Tango-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Tango-1 -119	purple	41.664	0.2458	20.4634	4.1306	20.632	4.867	0.402	7.637	0	0.0419	0	100.08
Tango-1 -120	purple	41.914	0.03	21.1799	3.6115	19.305	5.047	0.634	8.694	0	0.016	0.032	100.46
Tango-1 -121	purple	41.726	0.1669	21.2267	3.401	19.531	4.984	0.416	8.385	0.024	0.0267	0	99.887
Tango-1 -122	purple	41.475	0.0286	20.8207	3.959	20.039	4.636	0.5128	8.454	0.018	0.0251	0	99.967
Tango-1 -123	purple	41.7	0.0609	19.2703	6.2706	21.021	4.616	0.4198	6.846	0.053	0.0368	0.01	100.31
Tango-1 -124	purple	41.489	0.254	20.0043	4.5369	20.107	4.881	0.3313	7.744	0.066	0.0446	0.018	99.476
Tango-1 -125	purple	41.829	0.3493	19.8624	3.953	20.095	4.965	0.3722	8.52	0.013	0.0442	0	100
Tango-1 -126	red	41.705	0.0367	20.6377	4.0553	20.232	4.837	0.4782	7.823	0	0.0339	0	99.84
Tango-1 -127	red	41.584	0.198	20.7116	3.7888	20.382	4.649	0.3612	7.701	0	0.0456	0.047	99.467
Tango-1 -128	red	41.554	0.1999	18.882	6.4531	20.971	3.821	0.356	7.56	0	0.0991	0	99.896
Tango-1 -129	red	41.712	0.2054	19.8274	4.8963	20.604	5.121	0.4403	7.322	0.03	0.0414	0	100.2
Tango-1 -130	red	42.434	0.1584	21.5129	3.0148	21.247	4.208	0.4353	7.313	0.028	0.0477	0	100.4
Tango-1 -132	red	42.301	0.1458	21.47	2.9507	21.431	4.276	0.396	7.385	0	0.041	0	100.4
Tango-1 -133	red	41.9	0.1706	21.321	3.0598	21.311	4.165	0.3759	7.15	0	0.0373	0.007	99.499
Tango-1 -134	red	41.565	0.0235	21.0756	3.783	20.158	4.729	0.4077	7.967	0	0.0273	0	99.735
Tango-1 -135	red	40.797	0.1277	17.4153	7.8887	18.436	6.373	0.5658	8.311	0.085	0.031	0	100.03
Tango-1 -136	red	41.792	0.1755	22.3328	1.5088	19.765	4.102	0.4161	9.646	0	0.0345	0	99.773
Tango-1 -137	red	41.693	0.3156	20.233	3.8193	20.174	4.834	0.368	8.532	0.027	0.0403	0	100.04
Tango-1 -138	red	41.488	0.1491	20.3551	3.4771	20.151	4.737	0.4023	8.121	0.007	0.0536	0	98.941
Tango-1 -139	red	41.637	0.315	20.9673	3.1125	20.425	4.836	0.3501	7.923	0	0.0545	0.024	99.645
Tango-1 -140	red	42.061	0.2596	21.2359	3.0654	20.711	4.65	0.38	7.795	0.004	0.0373	0	100.2
Tango-1 -141	red	41.773	0.2002	20.3993	4.0853	20.287	4.792	0.4276	8.129	0.013	0.0479	0	100.15
Tango-1 -142	red	42.054	0.2034	21.2772	3.1144	20.798	4.485	0.4194	7.811	0	0.0494	0	100.21
Tango-1 -143	red	41.767	0	21.3337	3.4257	20.21	4.532	0.4856	7.973	0.024	0.0221	0.012	99.783
Tango-1 -144	red	41.606	0.2933	20.2992	4.3197	20.36	4.967	0.4092	7.999	0.002	0.0468	0.004	100.31
Tango-1 -145	red	41.55	0.2146	19.865	4.9044	20.05	5.069	0.3836	7.778	0.069	0.0464	0	99.93
Tango-1 -146	red	41.821	0.2829	21.2595	2.9135	20.942	4.593	0.3815	7.612	0	0.0538	0	99.859
Tango-1 -147	red	41.923	0.132	21.5255	2.8857	20.375	4.72	0.4564	8.077	0.021	0.0366	0	100.15
Tango-1 -148	red	42.067	0.0463	20.7432	1.2128	19.95	4.733	0.2206	8.419	0.062	0.034	0.029	97.516
Tango-1 -149	red	41.776	0.1843	20.5409	3.894	20.572	4.761	0.3908	7.839	0.062	0.0283	0	100.05
Tango-1 -150	red	41.61	0.1681	20.3481	4.1127	19.986	4.863	0.4665	8.151	0.001	0.0516	0	99.758
Tango-1 -151	red	41.84	0.0146	21.2034	3.7551	20.359	4.697	0.4063	8.186	0	0.014	0	100.47
Tango-1 -152	red	42.132	0.1267	19.5105	4.7175	21.405	3.318	0.3754	7.418	0.041	0.0534	0.019	99.117
Tango-1 -153	red	42.097	0.1703	21.1366	2.9388	20.587	4.665	0.4229	7.537	0	0.0371	0.015	99.606
Tango-1 -154	red	41.56	0.1848	19.5613	4.1502	19.998	5.064	0.3711	7.646	0	0.0417	0.015	98.592
Tango-1 -155	red	42.339	0.1882	21.757	2.6455	20.981	4.441	0.3944	7.859	0	0.0345	0.019	100.66
Tango-1 -157	red	41.18	0.2933	18.7404	6.1901	19.508	5.343	0.4954	7.92	0.04	0.0534	0.001	99.764
Tango-1 -158	red	41.671	0.3764	19.9963	4.0319	19.95	5.049	0.4175	8.361	0	0.0445	0	99.897
Tango-1 -159	red	41.557	0.172	20.4983	4.0499	19.966	4.83	0.4276	8.199	0	0.0594	0	99.759
Tango-1 -160	red	41.328	0.1554	18.4467	6.7545	19.577	5.736	0.4068	7.501	1E-04	0.0386	0.007	99.95
Tango-1 -161	red	41.412	0.186	18.1082	5.9319	19.394	5.753	0.4112	8.035	0	0.0286	0	99.26
Tango-1 -162	red	41.642	0.2072	20.2631	4.2887	19.937	4.874	0.4077	8.213	0.041	0.0358	0.013	99.922
Tango-1 -163	red	41.853	0.2513	19.8958	4.9587	20.249	5.062	0.3625	7.774	0.007	0.0421	0.02	100.48
Tango-1 -164	red	40.768	0.1791	17.325	7.8893	18.859	6.106	0.4411	8.073	0.024	0.0324	0	99.696
Tango-1 -165	red	41.551	0.1325	20.1108	4.6227	20.097	5.1	0.4333	7.705	0	0.0228	0	99.775
Tango-1 -166	red	41.472	0.269	19.2386	5.8536	19.892	5.321	0.4677	7.858	0.006	0.0473	0.01	100.43
Tango-1 -167	red	41.004	0.3416	18.7755	6.0218	19.667	5.542	0.4029	7.69	0	0.0549	0	99.5
Tango-1 -168	red	41.456	0.3278	19.6773	4.8671	19.958	5.12	0.3794	7.889	0.012	0.0558	0	99.742
Tango-1 -169	red	41.871	0.1705	20.3979	3.4732	20.439	4.724	0.352	7.997	0	0.0252	0	99.45
Tango-1 -170	red	41.983	0.1032	21.0532	3.5612	20.954	4.516	0.4	7.599	0	0.0345	0.012	100.22
Tango-1 -171	red	41.773	0.239	20.9215	3.4417	20.523	4.747	0.3802	7.551	0.031	0.0387	0	99.645
Tango-1 -172	red	41.799	0.1657	20.7236	3.6473	20.285	4.75	0.3503	8.043	0	0.0279	0	99.791
Tango-1 -173	red	41.478	0.1032	19.0291	6.1911	19.852	5.519	0.4117	7.348	0	0.0292	0	99.961
Tango-1 -174	red	41.594	0.0329	20.9311	4.0383	20.091	4.781	0.4744	7.755	0.019	0.0211	0.008	99.746
Tango-1 -175	red	41.587	0.2177	20.3064	4.1926	20.037	4.892	0.3763	8.232	0.018	0.0408	0	99.899
Tango-1 -176	red	41.569	0.3393	20.0717	4.2201	20.117	4.902	0.3886	7.684	0.029	0.0442	0	99.364
Tango-1 -177	red	41.798	0.3579	20.0779	3.6111	19.99	4.934	0.3881	8.517	0.001	0.0501	1E-04	99.726
Tango-1 -178	red	41.723	0.2186	19.9119	4.9911	19.919	5.239	0.4362	7.831	0.012	0.051	0	100.33
Tango-1 -179	red	41.339	0.0235	19.9132	4.1806	19.451	5.17	0.4882	8.216	0.024	0.0261	0	98.832

Tango-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Tango-1 -180	red	41.636	0.2498	19.8739	5.0211	20.186	5.118	0.4147	7.925	0	0.0391	0.008	100.47
Tango-1 -182	red	41.616	0.3326	20.0655	3.8485	19.953	4.936	0.4373	8.672	0.015	0.05	0.007	99.932
Tango-1 -183	red	41.259	0	18.2836	7.0678	20.467	4.827	0.365	6.836	0.018	0.0255	0.013	99.161
Tango-1 -184	red	41.865	0.3224	21.0968	3.0124	20.568	4.642	0.4231	7.644	0.022	0.0372	0.004	99.636
Tango-1 -185	red	41.97	0.1567	20.3128	3.0081	20.262	4.815	0.3156	7.957	0	0.0407	0	98.837
Tango-1 -186	red	41.336	0.0908	18.1596	7.1923	19.577	5.654	0.4026	7.471	0	0.0282	0	99.911
Tango-1 -187	red	41.219	0.2152	19.674	5.0925	20.08	5.086	0.3671	7.804	0.001	0.0315	0	99.57
Tango-1 -188	red	41.647	0.1647	20.4445	3.9749	20.111	4.61	0.3871	8.132	0	0.044	0.032	99.547
Tango-1 -189	red	41.341	0.2218	19.1657	5.003	19.922	5.317	0.3429	7.757	0.059	0.0453	0.002	99.176
Tango-1 -190	red	41.747	0.2138	20.5697	3.8882	20.312	4.817	0.4311	8.093	0	0.0416	0.014	100.13
Tango-1 -191	red	41.48	0.1541	18.6626	5.4707	19.699	5.542	0.3061	7.422	0	0.0303	0.029	98.794
Tango-1 -192	red	41.116	0.2834	18.3796	6.3188	19.18	5.599	0.4494	7.778	0	0.047	0	99.152
Tango-1 -193	red	41.859	0.3287	21.1614	3.2709	20.342	4.825	0.3904	8.117	0	0.0355	0	100.33
Tango-1 -194	red	41.117	0.2856	18.7185	6.2234	19.335	5.528	0.471	7.617	0	0.0383	0	99.333
Tango-1 -195	red	41.397	0.243	18.7243	6.2169	19.469	5.502	0.4141	8.049	0	0.0303	0	100.04
Tango-1 -196	red	41.559	0.2127	20.2816	4.017	19.973	4.752	0.4634	8.158	0	0.0381	0.014	99.469
Tango-1 -198	red	41.293	0.2533	18.6894	6.3098	19.539	5.514	0.3943	8.086	0.032	0.0633	0	100.17
Tango-1 -199	red	41.546	0.2293	20.1603	4.3712	20.203	4.73	0.374	8.212	0.009	0.0474	0	99.881
Tango-1 -200	red	41.533	0.2322	19.539	5.0131	20.059	5.197	0.3889	7.799	0.028	0.0391	0.015	99.842
Tango-1 -201	red	42.002	0.3279	20.2587	4.036	20.044	4.921	0.3875	8.365	0.027	0.0468	0	100.42
Tango-1 -202	red	41.379	0.3006	19.3908	5.0313	19.845	5.096	0.4247	8.115	0.034	0.0548	0	99.672
Tango-1 -203	red	41.674	0.196	20.7333	3.8005	20.015	4.848	0.3986	8.011	0	0.035	0.001	99.713
Tango-1 -204	red	41	0.2797	17.0676	7.5321	19.22	5.992	0.4352	7.575	0	0.0452	0.011	99.158
Tango-1 -205	red	41.466	0.1415	19.3376	4.9714	19.876	5.247	0.4067	7.834	0	0.0282	0	99.309
Tango-1 -206	red	42.14	0.2294	20.5557	3.9112	20.612	4.564	0.4327	7.885	0.006	0.05	0.008	100.39
Tango-1 -207	red	41.808	0.225	20.9923	3.3595	20.529	4.734	0.3904	7.765	0	0.0398	0	99.844
Tango-1 -208	red	41.761	0.3124	20.9843	3.2511	20.482	4.817	0.3892	7.867	0	0.0365	0.013	99.914
Tango-1 -209	red	41.727	0.2589	20.1896	4.1006	20.608	4.524	0.4169	7.91	0.052	0.0657	0	99.852
Tango-1 -210	red	41.521	0.31	20.0836	3.8843	19.933	4.915	0.4053	8.504	0	0.046	0	99.602
Tango-1 -211	red	41.643	0.2292	21.0789	3.0685	20.543	4.549	0.3862	8.301	0	0.0487	0	99.847
Tango-1 -212	red	41.456	0.2095	19.307	5.5463	19.842	5.307	0.4278	7.686	0	0.0464	0	99.828
Tango-1 -213	red	41.985	0.2165	20.8966	3.6866	20.546	4.756	0.3749	7.58	0.016	0.0399	0	100.1
Tango-1 -214	red	42.266	0.3072	20.872	3.3139	20.274	4.838	0.416	7.837	0.007	0.0499	0	100.18
Tango-1 -215	red	41.514	0.2391	20.1584	4.3965	20.285	4.952	0.4875	7.835	0.03	0.0337	0	99.93
Tango-1 -216	red	41.571	0.2031	19.1699	5.0414	19.829	5.411	0.3234	7.687	0.013	0.0194	0	99.267
Tango-1 -218	red	41.533	0.2621	19.5625	5.4696	20.075	5.121	0.377	7.985	0	0.0518	0.025	100.46
Tango-1 -219	red	41.502	0.2118	18.9144	5.4337	19.95	5.289	0.3909	7.903	0.019	0.0377	0	99.652
Tango-1 -220	red	41.732	0.2365	20.3125	4.133	20.619	4.524	0.3776	7.599	0	0.0525	0.015	99.6
Tango-1 -221	red	41.818	0.2325	20.8551	3.7512	20.554	4.775	0.4273	7.653	0.018	0.0396	0	100.12
Tango-1 -222	red	41.726	0.2269	22.3855	1.5079	19.723	4.261	0.4172	9.683	0	0.0567	0.017	100
Tango-1 -223	red	41.961	0.1962	19.9061	3.9511	20.205	5.069	0.3552	7.555	0	0.0311	7E-04	99.23
Tango-1 -224	red	41.794	0.1479	19.9484	3.0798	20.242	5.126	0.3527	7.818	0	0.0261	0.004	98.539
Tango-1 -225	red	41.588	0.0709	21.7937	2.4369	17.753	5.313	0.6079	11.52	0.004	0.0115	0.015	101.12
Tango-1 -226	orange	42.02	0.178	22.4294	1.3514	19.927	4.165	0.3438	9.629	0.053	0.0296	0	100.13
Tango-1 -227	orange	41.903	0.1742	22.377	1.3176	19.785	4.147	0.4047	9.848	0.053	0.0325	0	100.04
Tango-1 -228	orange	37.165	0.0296	20.8555	0.0228	2.2913	5.495	5.0219	29.88	0.042	0.0075	0.003	100.81
Tango-1 -229	orange	39.712	0.1275	22.3103	0.121	10.781	7.674	0.4026	19.06	0	0.0613	0.007	100.26
Tango-1 -230	orange	39.882	0.0978	22.5313	0.1388	10.758	7.56	0.3344	19.25	0	0.0544	0.019	100.62
Tango-1 -231	orange	41.933	0.3058	21.9045	1.7448	20.425	4.054	0.3396	9.229	0.004	0.0579	0	99.999
Tango-1 -232	orange	39.557	0.1297	22.0981	0.0687	10.279	5.679	0.4703	22.01	0.029	0.0515	0	100.37
Tango-1 -233	orange	41.81	0.2251	22.1854	1.5403	19.599	4.187	0.4287	9.773	0.012	0.0579	0.005	99.823
Tango-1 -234	orange	42.436	0.2583	22.9961	0.3771	20.748	3.96	0.3078	8.782	0.004	0.0564	0	99.927
Tango-1 -235	orange	41.914	0.2339	22.4286	1.4604	19.748	4.202	0.4002	9.85	0	0.0387	0	100.28
Tango-1 -236	orange	41.144	0.1679	22.1386	0.5854	16.948	5.233	0.3992	12.96	0	0.0352	0	99.609
Tango-1 -237	orange	41.827	0.2145	21.6743	1.2926	20.162	4.181	0.3271	9.229	0.009	0.0372	0	98.953
Tango-1 -238	orange	41.914	0.2746	22.3394	1.3294	20.654	4.002	0.3796	8.87	0	0.0564	0	99.818
Tango-1 -239	orange	39.466	0.0942	22.1472	0.0637	10.454	5.697	0.4219	22.44	0	0.0399	0.016	100.85
Tango-1 -240	orange	39.731	0.0889	22.3446	0.0938	10.821	7.526	0.3803	19.01	0.002	0.0622	0.009	100.07
Tango-1 -241	orange	41.951	0.319	22.7305	0.6548	19.772	3.869	0.4003	10.36	0	0.073	0	100.13

Tango-1 Garnet

Sample	Colour	SiO_2	TiO_2	Al_2O_3	Cr_2O_3	MgO	CaO	MnO	FeO	NiO	Na_2O	K_2O	Total
Tango-1 -242	orange	39.833	0.1141	22.2261	0.1063	10.672	7.485	0.417	18.94	0.026	0.0558	0.042	99.92
Tango-1 -243	orange	41.827	0.1871	22.3475	1.2069	19.881	4.18	0.3781	9.687	0.016	0.035	0	99.746
Tango-1 -244	orange	40.24	0.1387	22.32	0.1383	13.734	4.035	0.4643	19.22	0.012	0.0305	0.012	100.35
Tango-1 -245	orange	41.719	0.2243	22.2927	1.5203	19.812	4.232	0.3412	9.65	0	0.0559	0.011	99.858
Tango-1 -246	orange	41.785	0.2114	22.4299	1.5449	19.898	4.184	0.3496	9.937	0.009	0.0373	0.003	100.39
Tango-1 -247	orange	41.837	0.1812	22.3511	1.4431	20.011	4.143	0.382	9.66	0.019	0.0438	0	100.07
Tango-1 -248	orange	37.058	0.0386	20.708	0.0006	2.2625	5.443	4.9271	29.87	0.013	0	0.009	100.33
Tango-1 -249	orange	42.572	0.1737	22.5727	1.2727	21.225	4.336	0.3352	7.699	0	0.0341	0	100.22
Tango-1 -250	orange	41.696	0.2596	22.3712	1.5601	19.799	4.215	0.4671	9.87	0	0.0529	0	100.29
Tango-1 -251	orange	41.801	0.2407	21.9282	1.6223	20.038	4.087	0.5676	9.716	0	0.0369	0	100.04
Tango-1 -252	orange	42.343	0.1703	22.9839	0.7454	20.649	4.155	0.318	8.716	0	0.0349	0.037	100.15
Tango-1 -253	orange	41.904	0.2543	22.085	1.575	19.72	4.266	0.4187	9.806	0	0.0591	0.037	100.12
Tango-1 -255	orange	38.856	0.1039	21.6785	0.0613	8.7593	6.152	0.5733	24.29	0	0.0026	0	100.48
Tango-1 -256	orange	36.73	0	20.3904	0	1.8604	3.927	2.5934	34.78	0.004	0.001	0.013	100.3
Tango-1 -257	orange	41.921	0.1102	22.28	0.9461	19.818	4.121	0.2933	9.678	0.025	0.0306	0	99.223
Tango-1 -258	orange	41.933	0.2343	22.2745	1.4555	19.713	4.152	0.4078	9.787	0.046	0.0458	0	100.05
Tango-1 -259	orange	42.179	0.1926	22.3868	1.5064	19.885	4.188	0.351	9.732	0	0.0511	0	100.47
Tango-1 -260	red	41.652	0.2503	20.2882	4.299	20.449	4.793	0.3524	7.83	0	0.062	0	99.975

Tango-1 Chromite

Sample	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Tango-1 -1	0.03	3.227	0	0.0623	2.7059	53.208	0.305	7.83	0.0071	0.3936	31.362	0.204	0.129	99.47	9.0342	23.23	100.37
Tango-1 -2	0.018	2.123	0.0214	0.0245	4.5371	57.821	0.325	9.85	0	0.5118	24.317	0.161	0.158	99.87	5.4324	19.43	100.41
Tango-1 -3	0.024	0.37	0	0	9.4575	56.492	0.289	10.7	0.0024	0.1015	21.255	0.096	0.133	98.88	4.2102	17.47	99.303
Tango-1 -4	0.037	0.444	0	0.0354	1.654	65.408	0.222	9.57	0.0922	0.4305	21.731	0.048	0.175	99.85	4.3811	17.79	100.29
Tango-1 -5	0.008	3.333	0.0387	0	1.323	53.918	0.575	7.85	0.0476	0.5292	31.315	0.157	0.091	99.19	8.9255	23.28	100.08
Tango-1 -7	0.011	3.128	0	0	1.6786	54.995	0.443	8.09	0.0453	0.227	30.902	0.229	0.211	99.95	8.8568	22.93	100.84
Tango-1 -8	0.055	3.74	0	0	4.9753	55.106	0.178	10.5	0	0.2111	24.977	0.191	0.103	100	5.3538	20.16	100.55
Tango-1 -9	0.037	0.165	0.0127	0	9.7732	58.248	0.396	10.8	0.0622	0.4417	20.01	0.026	0.177	100.2	3.0026	17.31	100.46
Tango-1 -10	0.007	3.378	0	0.0461	1.4732	53.409	0.387	7.59	0.0466	0.2552	32.989	0.26	0.083	99.93	10.127	23.88	100.94
Tango-1 -11	0.045	0.256	0.0026	0.0141	9.6636	58.365	0.229	11.5	0.0268	0.2665	19.252	0.139	0.122	99.92	3.5075	16.1	100.27
Tango-1 -12	0.009	3.242	0	0	1.912	53.028	0.476	7.81	0	0.5316	31.907	0.161	0.078	99.15	9.6376	23.24	100.12
Tango-1 -13	0.025	0.533	0	0	1.9167	64.925	0.395	9.39	0.0083	0.3501	21.688	0.164	0.115	99.51	3.6298	18.42	99.875
Tango-1 -14	0.04	0.493	0	0	11.709	46.808	0.273	9.45	0.0306	0.3893	29.086	0.161	0.077	98.52	10.725	19.44	99.593
Tango-1 -15	0.057	1.242	0	0.0541	6.819	58.015	0.277	10.7	0.0081	0.2155	22.216	0.09	0.063	99.71	4.5588	18.11	100.17
Tango-1 -16	0.017	3.453	0	0	2.3967	52.587	0.627	8.33	0.063	0.3714	31.415	0.147	0.126	99.53	9.2163	23.12	100.46
Tango-1 -17	0.047	0.682	0	0	28.56	36.987	0.316	16.8	0	0.1337	16.173	0.148	0.112	99.97	4.9508	11.72	100.47
Tango-1 -18	0.002	0.598	0	0	1.4338	65.964	0.308	9.39	0	0.2572	21.139	0.082	0.087	99.26	3.0874	18.36	99.567
Tango-1 -19	0.021	0.359	0.0587	0	9.3352	57.19	0.194	10.7	0.0621	0.2555	20.977	0.143	0.143	99.47	4.2589	17.15	99.895
Tango-1 -21	0.008	2.253	0	0	2.458	56.92	0.596	9.12	0.0522	0.3648	27.312	0.201	0.21	99.49	7.4199	20.64	100.23
Tango-1 -22	0.047	0.359	0.0064	0.0067	7.0169	60.884	0.207	11.6	0.0418	0	19.041	0.129	0.074	99.4	3.5973	15.8	99.759
Tango-1 -23	0.029	2.83	0.0513	0	1.5087	54.853	0.553	8.11	0	0.4105	31.1	0.175	0.227	99.85	9.309	22.72	100.78
Tango-1 -24	0.03	0.662	0.0343	0.0187	7.4375	62.087	0.2	11.9	0.0271	0.2624	17.539	0.061	0.005	100.2	1.9243	15.81	100.44
Tango-1 -25	0.036	3.005	0.0276	0	1.7857	54.4	0.455	7.88	0.0177	0.4201	31.092	0.221	0.142	99.49	9.0074	22.99	100.39
Tango-1 -26	0.008	2.613	0.0113	0	1.783	55.103	0.297	7.76	0.004	0.3717	30.665	0.179	0.144	98.93	9.1178	22.46	99.848
Tango-1 -27	0.019	2.803	0	0	2.5276	54.204	0.317	8.03	0.0048	0.2828	30.302	0.124	0.178	98.8	8.7611	22.42	99.673
Tango-1 -28	0.088	1.164	0.0089	0.0494	5.9541	59.81	0.279	10.9	0.0551	0.2123	20.811	0.123	0.145	99.64	3.875	17.32	100.03
Tango-1 -29	0.041	0.115	0.0477	0	3.6001	56.286	0.39	7.01	0.0229	0.4609	30.648	0.126	0.293	99.04	9.9245	21.72	100.03
Tango-1 -30	0.056	0.836	0.0191	0.0288	7.3532	59.789	0.296	11.5	0.0252	0.1529	19.487	0.111	0.042	99.73	3.2561	16.56	100.05
Tango-1 -31	0.054	1.242	0	0.006	6.5516	58.175	0.349	11	0.0053	0.2194	21.819	0.117	0.132	99.65	4.7406	17.55	100.13
Tango-1 -32	0.029	0.205	0.0306	0	8.8796	58.177	0.158	11.1	0.0235	0.1672	20.224	0.092	0.093	99.15	4.1804	16.46	99.572
Tango-1 -33	0.013	0.253	0.0026	0.0284	10.33	56.128	0.238	10.9	0.0322	0.205	21.056	0.12	0.082	99.4	4.4086	17.09	99.844
Tango-1 -34	0.018	1.348	0.0125	0	1.3954	55.172	0.571	7.33	0.0305	0.4741	32.048	0.152	0.05	98.6	10.88	22.26	99.69
Tango-1 -35	0.046	1.506	0.0038	0	7.6476	57.5	0.188	11.1	0.0379	0.2596	21.434	0.139	0.085	99.95	4.3164	17.55	100.38
Tango-1 -38	0.058	1.13	0.0038	0	5.9076	59.868	0.349	11.1	0.0003	0.2186	20.642	0.139	0.003	99.39	3.7945	17.23	99.767
Tango-1 -40	0.033	3.7	0	0.0345	3.8892	56.058	0.237	10.1	0.0451	0.2512	25.077	0.085	0.119	99.63	5.1187	20.47	100.14
Tango-1 -41	0.037	1.276	0	0.0422	7.1209	58.095	0.248	11.3	0.0782	0.3088	20.961	0.122	0.003	99.58	4.4606	16.95	100.03
Tango-1 -42	0.01	0.453	0.0102	0	7.4267	55.878	0.136	9.35	0.0288	0.3717	25.739	0.12	0.082	99.61	7.5036	18.99	100.36
Tango-1 -43	0.014	0	0.0296	0	13.024	53.508	0.416	11.2	0.0563	0.1318	20.856	0.077	0.157	99.5	4.1337	17.14	99.915
Tango-1 -45	0.009	0	0.0077	0	11.19	53.284	0.178	10.1	0.0778	0.4538	23.607	0.168	0.191	99.31	6.654	17.62	99.981
Tango-1 -47	0.098	0.331	0	0.0149	9.7628	57.643	0.256	11.5	0.0218	0.2488	19.907	0.04	0.162	100	3.8831	16.41	100.41
Tango-1 -48	0.031	2.005	0	0.0184	1.2427	60.058	0.215	8.66	0.0184	0.4897	26.927	0.079	0.11	99.85	7.0316	20.6	100.56
Tango-1 -49	0.009	3.207	0.0226	0	1.5785	53.729	0.308	7.73	0.1226	0.6623	31.982	0.149	0.065	99.57	10.075	22.92	100.58
Tango-1 -50	0.006	3.59	0.0126	0	1.7726	51.957	0.439	7.81	0.0627	0.4559	32.066	0.165	0.126	98.46	9.8373	23.21	99.447
Tango-1 -51	0.022	0.284	0	0.0599	9.1867	57.819	0.323	10.8	0.0617	0.1147	20.689	0.124	0.135	99.66	3.7975	17.27	100.04
Tango-1 -52	0.002	0.447	0.0382	0.0054	8.5259	54.122	0.309	8.82	0.0501	0.3635	26.721	0.066	0.153	99.62	7.2089	20.23	100.34
Tango-1 -53	0.014	3.159	0.0113	0.0462	1.6364	52.636	0.535	7.75	0.0329	0.5003	32.794	0.176	0.178	99.47	10.508	23.34	100.52
Tango-1 -54	0.065	2.584	0.03	0.054	1.2527	57.385	0.161	7.94	0.0131	0.4127	29.968	0.149	0.112	100.1	8.4563	22.36	100.97
Tango-1 -55	0.011	0.518	0.0178	0	7.4113	54.151	0.19	8.73	0.0525	0.3705	27.627	0.129	0.182	99.39	8.5774	19.91	100.25
Tango-1 -56	0.01	2.856	0	0	1.5495	54.579	0.545	7.96	0.0379	0.3581	31.271	0.142	0.081	99.39	9.2792	22.92	100.32
Tango-1 -57	0.039	2.092	0.0265	0.026	5.0382	56.618	0.333	9.87	0.046	0.4181	25.285	0.139	0.013	99.94	6.1684	19.73	100.56
Tango-1 -58	0.016	0.357	0.0089	0	9.3195	57.246	0.382	10.5	0.0628	0.1484	21.22	0.098	0.005	99.39	3.6449	17.94	99.751
Tango-1 -59	0.05	0.842	0	0	7.0362	60.916	0.291	11.8	0.0082	0.2825	19.486	0.15	0.045	100.9	3.5449	16.3	101.25
Tango-1 -60	0.002	0.017	0	0.0285	11.244	53.873	0.332	9.9	0.015	0.3337	23.55	0.023	0.106	99.42	5.3964	18.69	99.959
Tango-1 -61	0.015	1.559	0	0.0158	1.7945	59.575	0.221	7.94	0.0304	0.4571	28.309	0.176	0.207	100.3	7.7234	21.36	101.07
Tango-1 -62	0.004	0.61	0	0	8.692	56.668	0.24	10.4	0.0339	0.2939	22.531	0.06	0.156	99.72	5.165	17.88	100.23
Tango-1 -63	0.003	0.746	0	0	2.6952	58.151	0.451	7.88	0.0682	0.5499	28.626	0.143	0.105	99.41	8.5635	20.92	100.27
Tango-1 -64	0.031	0.301	0	0.0208	8.2206	60.91	0.147	11.5	0.0495	0.2662	18.252	0.033	0.154	99.9	2.7067	15.82	100.18
Tango-1 -65	0.004	0.537	0.041	0	10.266	56.174	0.29	11.1	0.0502	0.2873	21.101	0.07	0.117	100	4.2479	17.28	100.44
Tango-1 -66	0.047	0.714	0	0.0674	9.1291	57.481	0.346	11	0.026	0.2876	20.589	0.112	0.183	99.95	3.4807	17.46	100.3

Tango-1 Chromite

Sample	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Tango-1 -67	0	0.992	0	0	4.2146	60.909	0.271	10	0.0235	0.3528	22.447	0.123	0.227	99.58	4.9822	17.96	100.08
Tango-1 -68	0.015	0.396	0.0255	0	9.5414	55.723	0.188	9.63	0.0452	0.3692	23.694	0.07	0.156	99.86	5.2759	18.95	100.38
Tango-1 -69	0.034	0.683	0	0	9.6217	56.996	0.362	11.1	0.0635	0.1693	20.771	0.073	0	99.89	3.611	17.52	100.25
Tango-1 -70	0.013	0.061	0.0013	0	8.4826	53.036	0.358	8.21	0.022	0.4249	27.769	0.092	0.169	98.64	8.0886	20.49	99.449
Tango-1 -71	0.034	1.86	0.0619	0	4.2396	58.501	0.286	9.78	0.0334	0.4494	23.731	0.172	0.137	99.29	5.1673	19.08	99.804
Tango-1 -72	0.055	0.331	0	0.0288	7.3239	60.472	0.349	11.5	0.0214	0.0011	19.442	0.071	0.088	99.68	3.4297	16.36	100.02
Tango-1 -73	0.012	0.081	0	0.0658	14.446	53.345	0.192	11.9	0	0.2301	19.454	0.051	0.203	99.98	3.6656	16.16	100.35
Tango-1 -74	0.018	2.55	0.0389	0.0093	2.2254	56.001	0.523	8.6	0.039	0.4195	28.727	0.113	0.053	99.32	7.7754	21.73	100.1
Tango-1 -77	1E-04	0.063	0.0153	0.0398	9.4131	56.223	0.322	10.2	0	0.3204	22.594	0.063	0.106	99.35	5.1501	17.96	99.869
Tango-1 -78	0.033	0.028	0	0.0088	12.555	55.011	0.186	11	0.0326	0.1719	19.994	0.061	0.213	99.33	3.419	16.92	99.672
Tango-1 -79	0.009	2.825	0	0	2.2821	54.16	0.387	7.86	0.0537	0.3035	31.077	0.18	0.105	99.24	9.1434	22.85	100.15
Tango-1 -80	0.015	0.183	0.0567	0.0465	3.6843	58.359	0.516	8.46	0.035	0.1916	27.504	0.149	0.181	99.38	8.138	20.18	100.19
Tango-1 -81	0.022	0.371	0	0	10.984	56.641	0.202	11.4	0.0185	0.3984	19.644	0.115	0.059	99.84	3.5138	16.48	100.19
Tango-1 -82	0.034	3.642	0	0.006	3.4913	55.931	0.382	9.76	0.0142	0.0212	25.758	0.176	0.111	99.32	5.0821	21.18	99.831
Tango-1 -84	0.026	0.217	0	0	10.715	54.955	0.178	10.6	0.0368	0.2077	22.135	0.064	0.117	99.22	5.1271	17.52	99.731
Tango-1 -85	0.025	0.245	0.0051	0.0162	9.9885	56.055	0.297	10.4	0	0.1832	22.603	0.049	0.154	100.1	4.9483	18.15	100.55
Tango-1 -86	0.033	0.039	0	0	17.578	36.985	0.064	10	0.0124	0.2568	32.904	0.22	0.163	98.3	15.735	18.75	99.877
Tango-1 -88	0.023	0.184	0	0.0128	7.9132	54.477	0.209	8.44	0.0063	0.2635	27.274	0.119	0.23	99.15	7.8526	20.21	99.937
Tango-1 -89	0.003	0.056	0.0425	0.0054	12.051	55.038	0.338	10.4	0.006	0.1388	21.097	0.063	0.192	99.43	3.2444	18.18	99.758
Tango-1 -90	0	0.099	0.0064	0	7.1247	57.143	0.37	9.27	0.0123	0.2659	25.148	0.062	0.243	99.75	6.6588	19.16	100.41
Tango-1 -91	0.027	0.101	0.0206	0	13.102	54.369	0.243	11.1	0.0242	0.184	20.623	0.07	0.256	100.1	3.6832	17.31	100.46
Tango-1 -92	0.006	3.332	0.0113	0.0113	2.7422	52.2	0.436	8.12	0.0243	0.2125	32.214	0.126	0.144	99.58	9.8712	23.33	100.57
Tango-1 -93	0.029	0.147	0	0	10.892	57.115	0.287	11.5	0.0287	0.0453	19.792	0.11	0	99.95	3.4671	16.67	100.29
Tango-1 -94	0.007	0.376	0.0039	0	10.996	56.553	0.202	11.1	0.0188	0.1301	20.106	0.1	0.149	99.77	3.4022	17.04	100.12
Tango-1 -95	0.036	4.34	0.0038	0	2.5583	47.542	0.907	8.26	0.0611	0.4603	34.829	0.241	0.11	99.35	11.662	24.34	100.52
Tango-1 -96	0.024	0.563	0.0176	0	2.7088	59.561	0.246	8	0.0338	0.3681	27.381	0.121	0.137	99.16	7.7401	20.42	99.937
Tango-1 -97	0	0.06	0.0039	0.0402	13	52.617	0.413	10.7	0	0.1716	22.073	0.067	0.109	99.25	4.5396	17.99	99.701
Tango-1 -98	0.022	1.496	0.005	0.0186	2.5722	54.506	0.556	7.93	0.0527	0.2992	31.471	0.088	0.155	99.17	10.601	21.93	100.23
Tango-1 -12*	0.008	0.119	0	0	11.71	52.986	0.132	9.46	0	0.4065	24.525	0.063	0.146	99.56	5.995	19.13	100.16
Tango-1 -14*	0.034	2.721	0	0.0388	1.4805	55.974	0.516	8.02	0.004	0.3982	29.886	0.15	0.105	99.33	8.06	22.63	100.13
Tango-1 -20*	0.031	4.772	0	0	2.0861	39.658	0.51	6.47	0.0017	0.5715	43.745	0.11	0.13	98.09	19.116	26.54	100
Tango-1 -29*	0	4.687	0.0302	0.0106	2.0588	39.438	0.658	6.6	0	0.4541	43.748	0.129	0.104	97.92	19.095	26.57	99.829
Tango-1 -35*	0.028	4.823	0.0038	0	2.0448	39.348	0.66	6.47	0	0.4822	44.355	0.097	0.099	98.41	19.222	27.06	100.34
Tango-1 -40*	0.025	2.03	0	0.0425	4.7895	57.784	0.428	10.1	0.0024	0.1838	23.884	0.173	0.069	99.47	4.8953	19.48	99.965
Tango-1 -42*	0.027	0.348	0	0	8.5667	58.538	0.095	11	0.0426	0.4321	20.649	0.171	0.288	100.1	4.7753	16.35	100.6
Tango-1 -49*	0.008	3.093	0	0.0112	1.6787	54.6	0.353	7.96	0.0594	0.3041	31.184	0.062	0.193	99.51	9.2048	22.9	100.43
Tango-1 -52*	0.015	4.648	0.0013	0	2.1182	39.614	0.563	6.78	0.0239	0.4741	44.133	0.15	0.144	98.66	19.878	26.25	100.66
Tango-1 -61*	0.012	4.73	0.0025	0	2.0644	39.593	0.592	6.47	0.0181	0.4334	44.171	0.214	0.269	98.57	19.46	26.66	100.52
Tango-1 -72*	0.024	2.36	0.0301	0	1.7579	56.6	0.656	8.04	0.0387	0.3106	29.143	0.078	0	99.04	7.2154	22.65	99.759
Tango-1 -73*	0.015	2.658	0	0.0145	1.5889	55.802	0.618	8.11	0.038	0.4607	29.919	0.13	0.165	99.52	8.2437	22.5	100.35

* These chromite grains were mixed in with the Tango-1 ilmenite analyses

Tango-1 Ilmenite

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
Tango-1 -1	core	0.001	52.48	0.1361	0.032	0.1414	2.0435	0	9.903	0.021	0.271	34.443	0.16	0	99.6	5.7554	29.26	100.21	59.088	35.658	5.253	100
Tango-1 -2	core	0.0183	48.93	0.2579	0	0.0234	2.2724	0.2141	8.051	0	0.618	38.665	0.085	0	99.1	10.092	29.58	100.15	61.034	29.599	9.367	100
Tango-1 -3	core	0	51.83	0.2581	0.038	0	3.4387	0.095	10.3	0.026	0.464	33.215	0.122	0.05	99.8	5.7467	28.04	100.41	57.216	37.479	5.305	100
Tango-1 -4	core	0.0096	51.57	0.2892	0.012	0.0795	4.37	0.3025	11.31	0.021	0.257	30.925	0.247	0.082	99.5	4.9916	26.43	99.977	54.119	41.274	4.607	100
Tango-1 -5	core	0.0033	48.59	0.2243	0	0.0271	2.144	0.1354	7.815	0.037	0.549	39.431	0	0.029	99	10.926	29.6	100.08	61.104	28.749	10.147	100
Tango-1 -6	core	0.0072	45.65	0.9219	0.08	0	0.6674	0.0187	5.54	0.066	0.401	45.425	0	0.011	98.8	15.177	31.77	100.31	65.471	20.380	14.149	100
Tango-1 -7	core	0.0087	49.25	0.2356	0.008	0.0565	2.2649	0.1458	8.099	0.032	0.473	38.517	0.107	0.011	99.2	9.7679	29.73	100.19	61.218	29.725	9.057	100
Tango-1 -8	core	0.0152	49.64	0.2207	0	0.0195	1.5442	0.09	8.059	0	0.475	38.601	0.057	0.082	98.8	9.4806	30.07	99.756	61.749	29.492	8.759	100
Tango-1 -9	core	0.0142	48.47	0.1961	6E-04	0	2.3428	0.2625	8.005	0	0.448	39.025	0	0	98.8	10.569	29.51	99.824	60.812	29.390	9.798	100
Tango-1 -10	core	0.0007	51.6	0.2533	0.085	0.0159	2.827	0.012	10.75	0	0.412	33.48	0.088	0	99.5	7.0926	27.1	100.23	54.729	38.757	6.514	100
Tango-1 -11	core	0.0166	52.56	0.458	0.062	0.0013	2.7494	0.2877	10.95	0.016	0.542	31.85	0.148	0	99.6	4.2166	28.06	100.06	56.663	39.459	3.878	100
Tango-1 -13	core	0.0014	48.85	0.51	0.075	0.0982	3.2746	0.1236	9.322	0.041	0.556	35.359	0.167	0.024	98.4	8.9398	27.31	99.293	56.894	34.663	8.443	100
Tango-1 -15	core	0.0003	45.28	0.7833	0.053	0	0.7841	0.1674	5.39	0.037	0.414	45.306	0.005	0.026	98.2	15.048	31.77	99.753	65.938	19.958	14.104	100
Tango-1 -16	core	0	52.46	0.1854	0	0.1261	2.2571	0	10.39	0.005	0.457	33.661	0.054	0	99.6	5.9068	28.35	100.19	57.248	37.385	5.367	100
Tango-1 -17	core	0.0202	49.15	0.529	0.055	0.0548	3.3778	0.2153	9.527	0.04	0.306	35.961	0.018	0.076	99.3	9.1253	27.75	100.25	56.773	34.780	8.447	100
Tango-1 -18	core	0.0165	51.55	0.2273	0.01	0	3.7884	0	10.26	0.047	0.489	32.74	0.028	0.095	99.2	5.632	27.67	99.813	57.057	37.711	5.233	100
Tango-1 -19	core	0.0149	49.07	0.1765	0.025	0	1.6606	0.0959	8.138	0.004	0.393	38.894	0.102	0	98.6	10.437	29.5	99.62	60.557	29.783	9.661	100
Tango-1 -21	core	0.0026	49.55	0.2025	0.018	0	1.604	0	8.196	0	0.46	39.037	0.097	0.113	99.3	10.572	29.52	100.34	60.378	29.879	9.743	100
Tango-1 -22	core	0	48.73	0.2432	0.003	0.0107	2.4183	0.0722	7.968	0.014	0.417	38.709	0.017	0.042	98.6	10.223	29.51	99.673	61.084	29.392	9.524	100
Tango-1 -23	core	0.006	50.32	0.2286	0	0.0162	3.5846	0.219	9.9	0.053	0.331	34.123	0.064	0	98.8	7.095	27.74	99.552	57.108	36.320	6.572	100
Tango-1 -24	core	0.0078	48.74	0.2556	0.01	0.0288	2.2659	0.2208	8.19	0.046	0.412	38.52	0.104	0	98.8	10.249	29.3	99.828	60.396	30.091	9.513	100
Tango-1 -25	core	0	50.45	0.302	0.006	0.0958	2.7942	0.0195	9.652	0.012	0.413	34.905	0.082	0.066	98.8	7.7216	27.96	99.57	57.484	35.369	7.148	100
Tango-1 -26	core	0.0177	52.08	0.2627	0.026	0.0721	2.7605	0	11.82	0.01	0.381	31.573	0.139	0.032	99.2	6.7246	25.52	99.849	51.413	42.472	6.115	100
Tango-1 -27	core	0.0094	51.88	0.2584	0	0.0386	2.6618	0.0199	10.37	0	0.388	33.559	0.106	0	99.3	6.1687	28.01	99.909	56.861	37.505	5.634	100
Tango-1 -28	core	0.0177	49.15	0.2531	0.048	0.0207	2.7542	0.1235	8.602	0	0.488	37.205	0.04	0	98.7	9.2757	28.86	99.631	59.628	31.707	8.665	100
Tango-1 -30	core	0	48.19	0.2813	0.003	0.0367	2.5307	0.1807	7.656	0.009	0.499	39.486	0.047	0.034	99	10.881	29.69	100.05	61.562	28.286	10.152	100
Tango-1 -31	core	0.0172	50.48	0.3364	0.087	0	2.9328	0	9.854	0	0.281	35.278	0.109	0.071	99.4	8.2843	27.82	100.28	56.573	35.776	7.651	100
Tango-1 -32	core	0	48.96	0.5771	0.089	0.0384	3.3297	0.2448	9.326	0.064	0.395	35.674	0.04	0.084	98.8	8.6542	27.89	99.692	57.532	34.358	8.110	100
Tango-1 -33	core	0.0251	50.36	0.2979	0.029	0.0166	2.8909	0	9.759	0.011	0.421	34.976	0.076	0.077	98.9	8.0981	27.69	99.755	56.802	35.700	7.498	100
Tango-1 -34	core	0	52.62	0.22	0.056	0	2.7166	0	10.72	0	0.417	33.406	0.177	0.019	100	6.148	27.87	100.97	55.978	38.424	5.599	100
Tango-1 -36	core	0.0083	50.91	0.2332	0	0.0344	2.2652	0	8.761	0	0.482	36.264	0.009	0.016	99	7.056	29.92	99.686	61.425	32.057	6.518	100
Tango-1 -37	core	0.0017	49.32	0.2481	0.014	0	2.1947	0.0039	8.089	0.032	0.447	38.63	0.061	0.092	99.1	10.046	29.59	100.14	60.968	29.708	9.324	100
Tango-1 -39	core	0.0056	50.04	0.2505	0.017	0.0009	2.7158	0.1619	8.55	0	0.436	37.307	0.085	0.061	99.6	8.4154	29.73	100.48	60.968	31.254	7.778	100
Tango-1 -41	core	0	51.74	0.2312	0.001	0.0155	3.7759	0.0341	10.72	0.024	0.418	32.206	0.129	0.048	99.3	5.6616	27.11	99.902	55.607	39.168	5.225	100
Tango-1 -43	core	0.0157	51.4	0.3291	0	0.1018	4.6045	0	11.29	0.017	0.487	30.752	0.192	0.013	99.2	5.5301	25.78	99.758	53.281	41.576	5.143	100
Tango-1 -44	core	0.0068	48.6	0.2694	0.044	0	2.4209	0.2101	8.017	0.002	0.43	39.002	0.024	0.045	99.1	10.473	29.58	100.12	60.849	29.418	9.732	100
Tango-1 -45	core	0.0061	51.37	0.2746	0	0.0744	4.3034	0	11.14	0.02	0.461	31.375	0.169	0	99.2	5.9796	25.99	99.798	53.554	40.904	5.542	100
Tango-1 -46	core	0.0151	50.16	0.4369	0.082	0.0837	3.6557	0.4347	10.15	0.027	0.444	33.687	0.123	0.016	99.3	6.7357	27.63	99.99	56.594	37.131	6.275	100
Tango-1 -47	core	0	48.74	0.258	0	0.0418	2.1623	0	7.752	0.009	0.499	39.169	0	0.058	98.7	10.493	29.73	99.741	61.595	28.623	9.782	100
Tango-1 -48	core	0	50.62	0.3647	0.061	0.0307	2.8271	0.1183	9.858	0	0.381	35.32	0.161	0	99.7	8.0999	28.03	100.55	56.868	35.689	7.443	100
Tango-1 -50	core	0.0149	52.92	0.1844	0	0.0375	3.7038	0	10.7	0.025	0.479	32.394	0.143	0	101	4.7829	28.09	101.07	56.976	38.660	4.365	100
Tango-1 -51	core	0.0234	52.3	0.2313	0.04	0.0487	4.4586	0.0753	11.45	0.006	0.35	31.115	0.246	0	100	5.1677	26.46	100.89	53.751	41.496	4.753	100
Tango-1 -53	core	0	50.65	0.2211	0.046	0	2.411	0.136	8.869	0.006	0.388	36.452	0.061	0	99.2	7.4258	29.77	99.987	60.817	32.320	6.863	100
Tango-1 -55	core	0	51.9	0.261	0	0.018	3.8898	0	10.65	0.05	0.417	31.92	0.179	0.008	99.3	5.1336	27.3	99.807	56.180	39.067	4.753	100
Tango-1 -56	core	0	52.17	0.2214	0.031	0	3.6452	0.1545	10.76	0.013	0.483	32.294	0.099	0	99.9	5.1752	27.64	100.39	56.213	39.028	4.760	100
Tango-1 -57	core	0.0079	52.12	0.3033	0	0.089	4.5522	0	11.3	0.001	0.432	30.987	0.235	0.069	100	5.154	26.35	100.61	53.994	41.254	4.752	100
Tango-1 -58	core	0	49.07	0.2012	0.029	0.0135	2.4059	0	8.042	0.026	0.445	38.901	0.073	0.068	99.3	10.54	29.42	100.33	60.639	29.561	9.800	100
Tango-1 -59	core	0	51.35	0.3878	0.038	0.0806	4.4558	0	11.36	0	0.35	31.207	0.261	0	99.5	6.0397	25.77	100.1	52.846	41.552	5.602	100
Tango-1 -60	core	0	51.95	0.3506	0.008	0.0969	4.25	0	11.38	0.035	0.329	30.665	0.178	0	99.2	4.8845	26.27	99.732	53.881	41.605	4.514	100
Tango-1 -62	core	0	51.63	0.3343	0.017	0.0991	4.6796	0.1204	11.23	0.029	0.344	31.106	0.195	0.042	99.8	5.2555	26.38	100.35	54.094	41.044	4.862	100
Tango-1 -63	core	0.0168	51.56	0.3209	0.012	0.1152	4.3969	0	11.43	0.006	0.369	30.853	0.277	0.087	99.4	5.7829	25.65	100.02	52.747	41.892	5.360	100
Tango-1 -65	core	0	51.36	0.3248	0.012	0.1066	4.3915	0	11.55	0	0.415	30.974	0.214	0.127	99.5	6.3995	25.22	100.12	51.782	42.296	5.923	100
Tango-1 -66	core	0	51.64	0.2838	0.017	0.066	4.3883	0.1418	11.34	0	0.385	30.914	0.251	0	99.4	5.3118	26.13	99.958	53.609	41.475	4.915	100
Tango-1 -67	core	0	45.61	0.8892	0.088	0	0.7873	0.2604	5.439	0	0.334	45.329	0.072	0.026	98.8	14.455	32.32	100.28	66.540	19.989	13.471	100
Tango-1 -68	core	0	52.35	0.1659	6E-04	0.0113	3.5076	0.0543	11.12	0	0.486	30.748	0.128	0	98.6	4.2516	26.92	98.997	55.345	40.723	3.933	100
Tango-1 -69	core	0.0153	49.03	0.261	0.016	0.0509	2.3765	0.035	8.26	0	0.498	38.615	0.04	0	99.2	10.471	29.19	100.25	60.025	30.276	9.699	100
Tango-1 -70	core	0.0034	49.17	0.2952	0.034	0	2.3452	0.032	7.959	0	0.445	39.004	0.087	0	99.4	10.126	29.89	100.39	61.437	29.171	9.392	100
Tango-1 -71	core	0	51.39	0.301	0.023	0.0946	4.5401	0	11.3	0.008	0.341	30.739	0.171	0.072	99	5.4557	25.83	99.53	53.318	41.597	5.085	100
Tango-1 -74	rim	0.0074	50.8	0.3151	0.051	0	2.4555	0	8.98	0.008	0.386	36.667	0	0.05	99.7	7.835	29.62	100.51	60.219	32.572	7.209	100
Tango-1 -75	core	0	51	0.2829	0	0	2.366	0	8.851	0.027	0.41	36.638	0.102	0.1	99.8	7.6476	29.76	100.54	60.764	32.209	7.026	100
Tango-1 -20*	core	0	50.46	0.2942	0.045	0.1171	2.6993	0.4345	9.84	0.034	0.439	34.986	0.118	0.037	99.5	7.4993	28.24	100.25	57.415	35.688	6.897	100
Tango-1 -44*	core	0.0157	47.8	0.4753	0.084	0	2.4828	0.3312	7.315	0	0.415	40.005	0.033	0.021	99	10.466	30.59	100.03	63.209	26.986	9.805	100
Tango-1 -75*	core	0	50.74	0.2231	0.045	0.0531	3.3459	0.2967	9.921	0.01	0.527	34.217	0.12	0.122	99.6	7.0012	27.92	100.32	57.228	36.278	6.494	100

Tango-1 Pyroxene

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Tango-1 -1	54.869	0.2618	1.935	2.6008	15.76	19.22	0.1058	2.669	0.08	2.4034	0.001	99.903
Tango-1 -2	55.398	0.314	2.0672	3.0647	15.38	18.73	0.0699	2.886	0.055	2.5966	0	100.57

Tango-1 Olivine

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Tango-1 -1	41.226	0.0137	0	0.0429	50.851	0.027	0.1119	7.955	0.417	0.0097	0	100.65
Tango-1 -2	40.733	0.0419	0	0.0644	49.24	9E-04	0.1752	9.572	0.364	0.0024	0.032	100.23
Tango-1 -3	40.382	0.0417	0	0	47.593	0.017	0.1494	11.69	0.287	0.0034	0.014	100.17
Tango-1 -4	40.6	0.05	0	0.0133	50.081	0	0.1063	8.566	0.383	0	0.005	99.804
Tango-1 -5	40.389	0.0009	0	0	47.045	0	0.2324	12.4	0.071	0.0061	0.005	100.15
Tango-1 -6	41.038	0.0226	0.0248	0.0213	48.759	0.063	0.1172	10.36	0.379	0.0125	0	100.8
Tango-1 -7	40.994	0.0169	0	0.0112	48.515	0.008	0.0834	10.75	0.278	0.0072	0	100.66
Tango-1 -8	41.056	0	0	0.0026	50.083	0.03	0.109	8.445	0.436	0	0	100.16
Tango-1 -9	40.052	0.0537	0	0.006	46.632	0.015	0.2266	13.14	0.093	0.011	0	100.23
Tango-1 -10	41.426	0.0341	0	0.0246	50.938	0	0.1362	7.439	0.344	0.0056	0	100.35
Tango-1 -11	41.301	0.0298	0	0.0067	50.882	0	0.1475	7.59	0.303	0.0103	0.037	100.31
Tango-1 -12	40.226	0.0425	0.0075	0.0111	46.739	0.061	0.1648	12.89	0.207	0.0031	0	100.35

Tango-Extension Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Tango-Ext -1	dk purple	41.285	0.0677	17.3032	8.7592	18.318	6.915	0.482	7.377	0.018	0.0162	0.0005	100.54
Tango-Ext -2	dk purple	41.095	0.2632	18.4635	6.6731	19.989	5.348	0.4001	7.368	0	0.0471	0	99.647
Tango-Ext -3	dk purple	40.773	0.0247	16.9342	8.8428	18.361	7.02	0.4498	7.298	0.004	0.0179	0	99.727
Tango-Ext -4	dk purple	40.57	0.2671	15.4159	10.3935	18.107	7.212	0.3657	7.362	0.002	0.0235	0.0121	99.73
Tango-Ext -5	dk purple	41.641	0.1114	18.881	6.395	20.081	5.148	0.4123	7.428	0	0.027	0	100.12
Tango-Ext -6	dk purple	41.334	0.2464	18.4336	6.5897	19.738	5.313	0.4162	7.544	0.044	0.0539	0.0062	99.719
Tango-Ext -7	dk purple	41.224	0.2924	17.9311	7.5184	19.62	5.385	0.4465	7.619	0.025	0.0638	0	100.13
Tango-Ext -8	dk purple	41.626	0.1678	18.7412	6.7079	19.991	5.532	0.471	7.267	0	0.0264	0.0207	100.55
Tango-Ext -9	dk purple	40.984	0.0395	17.0498	8.8369	18.345	7.01	0.4334	7.422	0.006	0.0127	0	100.14
Tango-Ext -10	dk purple	41.16	0.3443	17.3262	7.852	19.317	5.642	0.3583	7.527	0.012	0.0545	0.0204	99.613
Tango-Ext -11	dk purple	41.951	0.0037	21.0816	3.6911	19.722	5.097	0.531	8.171	0.022	0.0134	0.0219	100.31
Tango-Ext -12	dk purple	41.148	0.3183	17.5347	7.6788	19.029	5.99	0.4603	7.923	0.001	0.0458	0.0163	100.15
Tango-Ext -13	dk purple	40.934	0.0947	17.5095	8.2682	18.846	6.097	0.4699	7.584	0	0.0319	0	99.834
Tango-Ext -14	dk purple	41.498	0.118	18.8428	6.3009	19.722	5.419	0.4613	7.482	0	0.0512	0.0368	99.931
Tango-Ext -15	dk purple	41.83	0.1664	20.0521	4.783	20.273	4.973	0.4534	7.808	0	0.0501	0	100.39
Tango-Ext -16	dk purple	40.96	0.0682	17.0571	8.893	18.143	7.034	0.4808	7.473	0.05	0.0214	0	100.18
Tango-Ext -17	dk purple	41.575	0.2476	19.7014	4.9934	20.186	4.912	0.4043	7.807	0	0.0494	0	99.875
Tango-Ext -18	dk purple	40.688	0.2611	15.5728	10.4232	18.059	7.165	0.4369	7.238	0	0.0319	0	99.876
Tango-Ext -19	dk purple	40.701	0.0511	16.8998	8.7342	18.286	6.96	0.4613	7.507	0.042	0.0125	0	99.656
Tango-Ext -20	dk purple	40.804	0.0427	16.9812	8.6072	18.26	6.912	0.3875	7.418	0	0.0295	0	99.443
Tango-Ext -21	dk purple	40.422	0.2597	15.5022	10.3654	18.24	7.209	0.4077	7.329	0	0.0381	0	99.772
Tango-Ext -22	dk purple	40.927	0.2043	16.6493	9.359	19.164	5.819	0.38	7.524	0.058	0.0348	0	100.12
Tango-Ext -23	dk purple	41.547	0	21.1189	3.7205	19.278	5.345	0.5925	8.566	0.013	0.0079	0.006	100.2
Tango-Ext -24	dk purple	40.915	0.0135	17.1036	8.7048	18.313	7.097	0.4293	7.544	0	0.021	0	100.14
Tango-Ext -25	dk purple	41.409	0.1789	18.2077	7.3312	20.108	4.998	0.5373	7.763	0.047	0.0414	0	100.62
Tango-Ext -26	purple	41.728	0.1031	19.2058	6.1058	21.059	4.439	0.4141	7.012	0	0.0414	0	100.11
Tango-Ext -27	purple	41.494	0.0178	21.2987	3.1653	19.338	4.991	0.566	8.813	0.018	0.0188	0.0075	99.727
Tango-Ext -28	purple	41.641	0.0234	20.8201	3.7188	19.499	5.384	0.528	8.43	0	0.0192	0.0148	100.08
Tango-Ext -29	purple	41.252	0.0047	19.72	5.4277	18.651	6.246	0.5734	8.186	0.047	0	0	100.11
Tango-Ext -30	purple	41.254	0.0685	18.0777	7.2508	20.028	5.389	0.3744	6.959	0	0.02	0	99.421
Tango-Ext -31	purple	41.646	0.0779	19.2566	5.7576	19.962	5.151	0.3648	7.691	0.035	0.0326	0.0112	99.985
Tango-Ext -32	purple	41.595	0.1375	19.7867	4.8446	19.769	5.241	0.3959	7.966	0.016	0.0191	0.0291	99.799
Tango-Ext -33	purple	41.723	0.0422	21.2944	3.4707	20.089	4.744	0.516	7.901	0.035	0.0302	0.01	99.856
Tango-Ext -34	purple	41.816	0.0127	21.2186	3.5494	19.728	5.075	0.641	8.211	0	0.0194	0	100.27
Tango-Ext -35	purple	41.57	0.0005	20.6741	4.0624	19.907	4.846	0.4537	8.229	0	0.0177	0	99.76
Tango-Ext -36	purple	41.684	0.0098	20.8829	3.9828	19.857	4.819	0.4691	8.317	0	0.0215	0.03	100.07
Tango-Ext -37	purple	41.524	0.0271	20.8742	3.994	20.054	4.635	0.4835	8.324	0	0.0196	0	99.935
Tango-Ext -38	purple	41.828	0.037	21.2074	3.5656	19.863	4.77	0.4121	8.175	0	0.0374	0	99.897
Tango-Ext -39	purple	41.699	0.1753	19.5266	5.2558	20.246	5.131	0.4634	7.904	0	0.0433	0	100.44
Tango-Ext -40	purple	41.84	0.0403	20.8769	3.4594	20.07	4.838	0.512	7.907	0.081	0.0278	0	99.652
Tango-Ext -41	dk purple	41.197	0.0405	17.8486	7.5502	18.792	6.331	0.4678	7.593	0	0.0274	0.0381	99.886
Tango-Ext -42	dk purple	41.643	0	20.2301	4.7858	19.736	4.801	0.5476	8.1	0	0.0191	0	99.862
Tango-Ext -43	dk purple	40.837	0.0681	16.0742	9.7093	18.766	6.448	0.4764	7.449	0	0.0341	0	99.861
Tango-Ext -44	dk purple	40.984	0.0716	16.9881	8.5791	18.344	6.879	0.3751	7.428	0.032	0.0163	0	99.697
Tango-Ext -45	dk purple	41.341	0.1239	18.1102	7.3642	20.035	5.514	0.4108	7.115	0.019	0.0336	0.0405	100.11
Tango-Ext -46	dk purple	41.502	0.2359	18.2228	7.0546	20.276	4.598	0.377	7.592	0.023	0.0609	0	99.942
Tango-Ext -47	dk purple	41.459	0.0685	18.4049	6.8027	19.637	5.583	0.4138	7.596	0.007	0.0263	0.0124	100.01
Tango-Ext -48	dk purple	40.677	0.2371	15.504	10.5059	18.233	7.193	0.3995	7.394	0.012	0.0283	0	100.18
Tango-Ext -49	dk purple	40.831	0.0469	17.0181	8.696	18.249	7.056	0.4309	7.398	0	0.0072	0	99.733
Tango-Ext -50	dk purple	42.101	0.0593	21.3633	3.5299	20.303	4.756	0.4478	8.03	0	0.0243	0.016	100.63
Tango-Ext -51	purple	41.847	0.054	21.3633	3.3927	19.991	4.795	0.5037	7.888	0	0.0232	0.0083	99.866
Tango-Ext -52	purple	41.925	0.0173	21.1406	3.6726	20.027	4.737	0.3925	8.245	0.018	0.0366	0.0284	100.24
Tango-Ext -53	purple	41.9	0.0084	21.418	3.2653	19.707	5.2	0.5795	8.305	0.005	0.0047	0	100.39
Tango-Ext -54	purple	41.546	0.0103	19.9936	5.0238	18.414	5.967	0.6021	8.444	0	0.0209	0	100.02
Tango-Ext -55	purple	42.123	0.2128	21.9531	2.516	20.739	4.477	0.4295	8.425	0.028	0.0429	0	100.95
Tango-Ext -56	purple	41.877	0.0028	20.6628	4.4352	19.745	5.102	0.5186	8.05	0	0.0205	0.0034	100.42
Tango-Ext -57	purple	41.753	0.0402	20.5035	4.4504	20.248	4.516	0.5369	7.97	0.02	0.0283	0	100.07
Tango-Ext -58	purple	41.876	0.0757	19.6432	5.678	20.023	5.185	0.4003	7.625	0	0.0263	0.0023	100.54
Tango-Ext -59	purple	41.654	0.0537	19.0136	6.2823	21.008	4.336	0.4721	7.058	0	0.0318	0	99.91

Tango-Extension Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Tango-Ext -60	purple	41.331	0	20.1202	5.0242	18.676	5.9	0.5674	8.057	0.024	0.0242	0.005	99.729
Tango-Ext -61	purple	41.912	0	20.8599	3.8043	19.24	5.402	0.5116	8.625	0	0	0.0029	100.36
Tango-Ext -62	purple	40.437	0.0572	18.8316	5.8572	16.051	6.951	0.6905	10.51	0.015	0.0239	0.0609	99.485
Tango-Ext -63	purple	41.688	0	20.8667	4.0154	19.85	4.747	0.5116	8.304	0.01	0.0211	0.039	100.05
Tango-Ext -64	purple	41.645	0.0145	20.9258	3.6516	20.135	4.484	0.5176	8.214	0	0.0241	0	99.612
Tango-Ext -65	purple	41.723	0.0323	20.5117	4.3477	19.414	5.528	0.4919	8.12	0	0.0153	0	100.18
Tango-Ext -66	purple	41.706	0	21.2513	3.5503	19.299	5.213	0.5596	8.521	0	0.0258	0.0131	100.14
Tango-Ext -67	purple	41.501	0.0588	18.5604	6.555	19.255	6.08	0.484	7.651	0.062	0.0264	0.019	100.25
Tango-Ext -68	purple	42.079	0.0474	21.9897	2.4293	19.701	4.542	0.5516	8.915	0.001	0.0134	0.0288	100.3
Tango-Ext -69	purple	41.612	0.0351	21.2145	3.546	19.908	4.667	0.5681	8.401	0	0.0217	0.0283	100
Tango-Ext -70	purple	41.656	0.0811	21.0292	3.6453	20.182	4.724	0.4883	7.924	0	0.0329	0	99.763
Tango-Ext -71	purple	41.806	0.1408	20.9678	3.4574	20.259	4.763	0.4491	7.83	0	0.0349	0	99.708
Tango-Ext -72	purple	41.981	0.0385	21.5408	3.3354	20.396	4.619	0.4407	7.977	0	0.0186	0.0237	100.37
Tango-Ext -73	purple	41.789	0.0365	20.9683	3.8193	20.061	4.63	0.5301	8.327	0	0.0206	0	100.18
Tango-Ext -74	purple	41.945	0.1583	21.2177	3.2263	20.225	4.775	0.4647	7.686	0.013	0.0334	0	99.745
Tango-Ext -75	purple	42.046	0.1703	21.872	2.496	20.46	4.501	0.3831	8.304	0	0.0388	0.0112	100.28
Tango-Ext -76	red	41.842	0.3316	20.412	4.2681	20.379	4.912	0.3491	7.387	0.009	0.0573	0	99.947
Tango-Ext -77	red	41.87	0.1798	20.785	3.7279	20.748	4.781	0.4013	7.491	0	0.043	0.0234	100.05
Tango-Ext -78	red	40.92	0.2846	16.9841	8.6881	19.18	5.688	0.4872	7.435	0	0.0652	0	99.732
Tango-Ext -79	red	41.799	0.2094	21.1719	3.0255	20.519	4.639	0.3816	8.1	0.004	0.0226	0	99.873
Tango-Ext -80	red	41.934	0.1918	21.5534	2.5971	20.508	4.405	0.396	7.952	0	0.028	0	99.565
Tango-Ext -81	red	41.517	0.175	19.6772	4.9055	20.453	4.806	0.367	7.766	0.044	0.0424	0	99.753
Tango-Ext -82	red	41.906	0.2395	21.3171	3.1652	20.804	4.475	0.438	7.714	0	0.0549	0	100.11
Tango-Ext -83	red	41.894	0.3647	19.2391	5.8081	19.672	5.295	0.438	8.021	0.025	0.0485	0.006	100.81
Tango-Ext -84	red	41.52	0.3096	19.6498	4.945	20.102	4.9	0.4033	8.014	0	0.0463	0	99.89
Tango-Ext -85	red	41.856	0.2819	19.0413	6.0686	20.123	5.088	0.371	7.384	0	0.0666	0.0091	100.29
Tango-Ext -86	red	41.564	0.119	19.9122	4.6757	19.84	5.243	0.3994	7.709	0	0.024	0.0042	99.49
Tango-Ext -87	red	41.839	0.2412	20.2519	4.2051	20.187	5.008	0.4092	8.235	0	0.0314	0	100.41
Tango-Ext -88	red	41.527	0.2091	19.6964	5.1637	20.158	5.173	0.4609	7.75	0.025	0.0261	0	100.19
Tango-Ext -89	red	41.674	0.1868	19.8531	4.9319	20.489	4.811	0.3854	7.661	0.019	0.0467	0.011	100.07
Tango-Ext -90	red	41.126	0.2304	18.2274	7.0278	19.85	5.388	0.4394	7.288	0.004	0.0519	0	99.634
Tango-Ext -91	red	41.627	0.0501	20.6836	4.0119	19.953	4.855	0.4753	8.531	0.028	0.0193	0.0216	100.25
Tango-Ext -92	red	41.644	0.2315	19.2377	5.6653	20.319	4.967	0.3655	7.176	0.019	0.0546	0	99.679
Tango-Ext -93	red	41.252	0.1826	18.4857	6.6624	19.66	5.76	0.4633	7.22	0.015	0.0424	0.017	99.76
Tango-Ext -94	red	41.449	0.2253	20.0895	4.5057	20.199	4.989	0.4134	7.865	0.019	0.0382	0.0251	99.818
Tango-Ext -95	red	41.864	0.2309	19.9637	4.7391	20.194	4.888	0.4262	7.857	0.009	0.0405	0	100.21
Tango-Ext -96	red	41.624	0.2924	19.4234	5.1363	20.202	4.861	0.3881	7.893	0	0.0434	0	99.863
Tango-Ext -97	red	41.264	0.0728	18.7639	6.3731	18.993	5.855	0.4267	7.896	0.04	0.0153	0.0141	99.712
Tango-Ext -98	red	42.195	0.2756	21.8848	2.1334	21.231	4.315	0.4177	7.609	0.083	0.0558	0	100.2
Tango-Ext -99	red	41.425	0.3122	19.6767	4.8156	20.196	4.844	0.4021	7.869	0.029	0.0504	0.0237	99.644
Tango-Ext -100	red	41.733	0.2564	19.5677	5.2771	20.223	5.163	0.4105	7.847	0	0.0499	0	100.53
Tango-Ext -101	red	41.947	0.0824	20.6828	4.092	20.533	4.848	0.3348	7.635	0.01	0.027	0	100.19
Tango-Ext -102	red	42.312	0.2297	21.3051	3.1994	20.955	4.298	0.3861	7.534	0.001	0.0587	0.0073	100.29
Tango-Ext -103	red	41.756	0.1621	19.7129	5.1456	20.329	5.141	0.4107	7.56	0	0.0354	0.0004	100.25
Tango-Ext -104	red	40.764	0.1819	17.1165	8.087	18.138	6.804	0.4539	8.226	0.038	0.0281	0.0359	99.873
Tango-Ext -105	red	41.618	0.1884	19.773	5.1077	20.577	4.903	0.4096	7.189	0.029	0.0544	0.003	99.852
Tango-Ext -106	red	41.642	0.2149	19.6261	5.2289	20.223	5.124	0.4487	7.519	0.063	0.0503	0	100.14
Tango-Ext -107	red	41.43	0.1621	17.6268	7.9873	20.204	5.044	0.3747	7.201	0.007	0.0352	0.0296	100.1
Tango-Ext -108	red	41.574	0.2044	18.9354	5.9984	20.229	5.094	0.3811	7.186	0.012	0.039	0.003	99.656
Tango-Ext -109	red	41.287	0.2281	18.3412	6.8856	19.454	5.721	0.4588	7.881	0.021	0.0435	0	100.32
Tango-Ext -110	red	41.451	0.2816	19.3494	5.2638	20.54	4.558	0.4091	7.811	0.041	0.0612	0	99.766
Tango-Ext -111	red	41.167	0.363	17.4288	7.9812	19.306	5.841	0.4318	7.744	0	0.0566	0	100.32
Tango-Ext -112	red	40.862	0.0664	16.5191	9.5557	19.077	6.293	0.4495	7.11	0.026	0.02	0	99.98
Tango-Ext -113	red	41.37	0.141	18.9524	6.4095	20.406	4.782	0.4651	7.544	0	0.0404	0.0203	100.13
Tango-Ext -114	red	41.809	0.2093	19.5902	5.0891	20.208	5.107	0.4022	7.999	0	0.0324	0	100.45
Tango-Ext -115	red	41.449	0.3008	19.6505	4.9382	20.146	4.973	0.3814	7.623	0.009	0.0464	0	99.517
Tango-Ext -116	red	41.667	0.2376	19.9763	4.7036	20.218	4.98	0.3912	7.888	0.021	0.029	0.0111	100.12
Tango-Ext -117	red	41.674	0.2347	19.6553	5.0869	20.743	4.468	0.4659	7.325	0.015	0.0625	0	99.73
Tango-Ext -118	red	41.678	0.29	19.1557	5.5424	19.681	5.448	0.4357	8.033	0.022	0.0411	0.0214	100.35

Tango-Extension Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Tango-Ext -119	red	41.536	0.2344	19.627	5.1085	20.128	5.31	0.4095	7.343	0	0.0273	0	99.725
Tango-Ext -120	red	41.727	0.2795	19.3633	5.2412	20.096	5.246	0.3459	7.881	0.027	0.048	0	100.25
Tango-Ext -121	red	41.414	0.1158	18.8864	6.0802	19.129	5.875	0.4802	8.338	0	0.029	0	100.35
Tango-Ext -122	red	41.806	0.1908	20.2639	4.3056	20.139	4.956	0.4842	8.016	0.019	0.0391	0	100.22
Tango-Ext -123	red	41.419	0.2722	18.9458	5.863	20.026	5.167	0.4316	7.729	0	0.06	0.0111	99.924
Tango-Ext -124	red	41.336	0.3481	18.8657	5.8774	19.661	5.167	0.4482	7.969	0.046	0.0487	0	99.766
Tango-Ext -125	red	41.662	0.2107	19.3872	5.2617	20.051	5.188	0.3737	7.883	0.044	0.0429	0	100.1
Tango-Ext -126	red	41.556	0.1902	19.5855	5.1094	20.14	5.124	0.3743	7.755	0	0.046	0.0122	99.892
Tango-Ext -127	red	41.923	0.1118	20.7621	3.8087	20.648	4.689	0.3665	7.605	0.013	0.0371	0	99.965
Tango-Ext -128	red	41.359	0.2381	18.4399	6.6842	19.892	5.326	0.4228	7.63	0	0.0483	0	100.04
Tango-Ext -129	red	41.662	0.2062	19.8174	4.9026	20.271	4.953	0.4167	7.785	0	0.0352	0.0196	100.07
Tango-Ext -130	red	41.974	0.2057	19.4793	5.3485	20.222	5.112	0.411	7.424	0.01	0.0381	0.0017	100.23
Tango-Ext -131	red	41.442	0.1245	19.2057	5.3366	19.947	5.324	0.408	7.881	0	0.0227	0	99.691
Tango-Ext -132	red	41.632	0.153	19.4794	5.2917	19.566	5.259	0.4174	8.157	0.037	0.0271	0.0057	100.02
Tango-Ext -133	red	42.15	0.2576	20.9415	3.2984	20.83	4.439	0.3975	7.869	0.028	0.0524	0.0483	100.31
Tango-Ext -134	red	41.556	0.1969	20.2113	4.6696	20.028	5.016	0.4518	7.781	0.028	0.0387	0.0024	99.98
Tango-Ext -135	red	41.842	0.158	19.633	5.4396	20.542	4.745	0.4253	6.96	0	0.0408	0	99.785
Tango-Ext -136	red	41.656	0.0618	19.4377	5.9368	19.934	5.404	0.4459	7.528	0	0.0143	0	100.42
Tango-Ext -137	red	41.311	0.2395	19.6253	5.1613	20.157	5.407	0.3885	7.469	0.018	0.0404	0	99.816
Tango-Ext -138	red	41.319	0.3136	18.8634	6.0169	19.563	5.503	0.4847	7.901	0.076	0.0469	0	100.09
Tango-Ext -139	red	41.569	0.2438	20.0907	4.6377	20.25	5.058	0.4574	7.804	0.037	0.0352	0.0164	100.2
Tango-Ext -140	red	41.305	0.1618	18.6932	6.2373	19.508	5.575	0.4189	7.591	0	0.0295	0.0216	99.542
Tango-Ext -141	red	42.1	0.2352	21.0703	3.1484	21.035	4.465	0.4246	7.717	0.009	0.0417	0	100.25
Tango-Ext -142	red	41.478	0.2915	19.7218	4.9744	20.338	5.107	0.4025	7.799	0.032	0.0417	0.0329	100.22
Tango-Ext -143	red	41.698	0.2845	18.4679	6.6157	20.848	3.932	0.4623	7.614	0.007	0.0825	0	100.01
Tango-Ext -144	red	41.729	0.3154	19.8975	4.6724	20.912	4.27	0.3999	7.78	0	0.0662	0	100.04
Tango-Ext -145	red	41.464	0.3611	18.4509	6.5189	19.48	5.54	0.4427	7.694	0.005	0.0616	0.0204	100.04
Tango-Ext -146	red	41.741	0.2316	20.1445	4.4798	20.206	4.944	0.3999	7.894	0.047	0.0465	0	100.14
Tango-Ext -147	red	41.666	0.282	19.4087	5.6775	19.763	5.316	0.4835	8.187	0.071	0.0526	0	100.91
Tango-Ext -148	red	41.729	0.2947	19.6374	4.8097	19.617	5.391	0.3968	8.377	0.013	0.0371	0	100.3
Tango-Ext -149	red	41.933	0.2081	20.6348	3.7449	20.298	4.865	0.4271	8.239	0	0.0355	0	100.39
Tango-Ext -150	red	42.016	0.2683	21.5225	3.252	21.018	4.382	0.3634	7.762	0.04	0.0432	0	100.67
Tango-Ext -151	red	42.215	0.2441	21.346	3.3687	20.908	4.468	0.3809	7.71	0	0.0603	0	100.7
Tango-Ext -152	red	41.925	0.3224	20.7653	3.6282	20.506	4.756	0.423	7.961	0.06	0.0492	0.0083	100.4
Tango-Ext -153	red	41.345	0.0464	19.7689	5.0136	19.966	5.254	0.4547	8.048	0.034	0.0094	0	99.938
Tango-Ext -154	red	41.929	0.2387	20.6127	4.0289	20.56	4.636	0.3525	7.775	0.004	0.0481	0	100.19
Tango-Ext -155	red	41.855	0.2622	20.8065	3.7485	20.918	4.267	0.3652	8	0.035	0.0563	0.0349	100.35
Tango-Ext -156	red	41.863	0.1987	20.6194	3.9545	20.977	3.985	0.3667	7.643	0.002	0.0653	0.0292	99.704
Tango-Ext -157	red	41.808	0.2855	20.63	3.6008	20.305	4.589	0.4228	8.463	0	0.0605	0.0349	100.2
Tango-Ext -158	red	41.886	0.3975	20.7945	3.4496	20.387	4.806	0.4017	8.311	0.021	0.0703	0	100.52
Tango-Ext -159	red	41.385	0.0757	18.6171	6.6121	18.938	5.835	0.51	8.29	0.026	0.0167	0	100.31
Tango-Ext -160	red	41.81	0.0305	20.894	3.9975	20.07	4.684	0.4778	8.127	0.037	0.0213	0	100.15
Tango-Ext -161	red	41.922	0.305	19.6209	5.0042	20.156	4.966	0.4012	8.252	0.021	0.0503	0	100.7
Tango-Ext -162	red	42.007	0.3298	19.6967	5.1063	20.515	4.756	0.397	7.911	0	0.0573	0	100.78
Tango-Ext -163	red	41.135	0.2346	18.4416	6.8455	19.659	5.598	0.3838	7.324	0.024	0.0262	0.0052	99.675
Tango-Ext -164	red	42.064	0.3193	21.5407	2.5864	20.818	4.404	0.4038	8.194	0	0.0462	0	100.38
Tango-Ext -165	red	41.498	0.2715	19.8463	4.6039	20.118	4.878	0.3789	8.208	0	0.048	0.0199	99.87
Tango-Ext -166	red	41.802	0.0969	21.0589	3.6744	20.301	4.947	0.3949	8.13	0	0.0087	0.0078	100.42
Tango-Ext -167	red	41.197	0.2657	18.0035	7.2887	19.432	5.901	0.4765	7.538	0	0.0412	0.0073	100.15
Tango-Ext -168	red	41.583	0.3059	19.4165	5.508	20.229	5.029	0.4336	7.652	0.046	0.0387	0	100.24
Tango-Ext -169	red	41.424	0.3288	20.0484	4.4068	20.327	4.577	0.4058	8.05	0	0.0651	0	99.633
Tango-Ext -171	red	41.663	0.2089	20.1826	4.523	20.119	4.874	0.3593	7.853	0.046	0.0437	0	99.872
Tango-Ext -172	red	42.14	0.2598	21.1345	3.2819	21.011	4.435	0.3642	7.763	0	0.0456	0	100.44
Tango-Ext -173	red	41.601	0.2273	20.3686	4.1382	20.221	4.848	0.3751	8.014	0.031	0.0407	0	99.864
Tango-Ext -174	red	41.722	0.1057	20.6537	3.6564	20.07	4.852	0.4258	8.175	0.021	0.0161	0	99.697
Tango-Ext -175	red	41.65	0.2778	20.2621	4.7891	20.033	5.046	0.3797	7.739	0.036	0.0336	0	100.25
Tango-Ext -176	red	41.489	0.3178	19.5674	5.1047	20.059	4.939	0.4367	7.851	0	0.0482	0.0087	99.821
Tango-Ext -177	red	41.889	0.2553	20.0274	4.6349	20.06	5.069	0.3806	7.879	0	0.0249	0	100.22
Tango-Ext -178	red	41.451	0.0996	18.9229	6.1201	19.18	5.795	0.4498	8.394	0.022	0.008	0.0086	100.45

Tango-Extension Chromite

Sample	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Tango-Ext -1	0	1.26	0.0063	0	2.883	57.135	0.555	8.401	0.054	0.499	28.667	0.085	0.15	99.699	8.573	20.95	100.56
Tango-Ext -2	0.019	4.67	0	0	0.706	43.158	0.575	5.94	0.069	0.526	42.834	0.15	0	98.644	17.23	27.33	100.37
Tango-Ext -3	0	0.46	0	0.026	5.399	51.793	0.245	6.642	0.006	0.394	33.965	0.055	0.1	99.081	12.25	22.94	100.31
Tango-Ext -4	0.008	1.62	0	0.003	2.923	55.689	0.64	8.142	0	0.398	30.06	0.111	0.129	99.727	8.964	21.99	100.63
Tango-Ext -5	0.024	1.48	0	0.028	7.221	53.489	0.207	9.456	0.001	0.481	27.057	0.136	0.156	99.741	8.123	19.75	100.55
Tango-Ext -6	0.009	0.19	0.0077	0.002	11.61	54.27	0.273	10.92	0.084	0.201	22.139	0.121	0.149	99.977	5.329	17.34	100.51
Tango-Ext -7	0.017	0.62	0	0.027	12.85	51.052	0.449	10.77	0	0.215	23.521	0.067	0.197	99.792	5.599	18.48	100.35
Tango-Ext -8	0.004	0.3	0	0	6.764	52.861	0.25	8.303	0.051	0.667	30.16	0.045	0.206	99.607	11.07	20.2	100.72
Tango-Ext -9	0.016	1.85	0	0	2.731	54.065	0.465	8.008	3E-04	0.452	31.064	0.189	0.284	99.12	10.45	21.66	100.17
Tango-Ext -10	0.075	0.22	0	0	6.272	63.855	0.374	11.77	0.018	0.341	16.767	0.096	0.077	99.866	1.519	15.4	100.02
Tango-Ext -11	0.067	0.31	0.0332	0	8.376	59.072	0.356	11.85	0.013	0.311	19.255	0.171	0.109	99.923	3.981	15.67	100.32
Tango-Ext -12	0.016	0.05	0	0.008	11.32	56.424	0.456	11.49	0.033	0.314	20.123	0.072	0.163	100.47	3.794	16.71	100.85
Tango-Ext -13	0.032	0.02	0	0	12.63	52.471	0.343	10.13	0.055	0.383	23.443	0.126	0.229	99.849	5.573	18.43	100.41
Tango-Ext -14	0.018	1.32	0.0341	0	3.368	54.504	0.336	8.049	0.052	0.431	30.376	0.121	0.179	98.784	10.34	21.07	99.82
Tango-Ext -15	0.034	2.04	0.0289	0.014	1.875	53.887	0.429	7.452	0	0.617	32.495	0.147	0.165	99.188	11.03	22.57	100.29
Tango-Ext -16	0	2.74	0	0	1.662	54.422	0.624	7.941	0.067	0.64	30.904	0.132	0	99.131	9.164	22.66	100.05
Tango-Ext -17	0.026	3.06	0.0277	0.05	2.749	51.976	0.467	7.616	0.068	0.502	32.547	0.151	0.016	99.258	9.925	23.62	100.25
Tango-Ext -18	0.029	0.23	0.0038	0.043	7.731	59.576	0.371	11.16	0.081	0.174	20.232	0.154	0.056	99.836	4.013	16.62	100.24
Tango-Ext -19	0.02	0.43	0.0178	0	5.792	54.372	0.287	8.184	0	0.44	29.661	0.17	0.135	99.505	10.04	20.63	100.51
Tango-Ext -20	0.024	0.21	0	0	8.737	53.238	0.421	9.464	0	0.43	26.656	0.169	0.09	99.439	8.359	19.13	100.28
Tango-Ext -21	0.02	0.24	0	0	9.003	56.333	0.284	10.18	0.042	0.186	22.788	0.133	0.189	99.399	5.352	17.97	99.935
Tango-Ext -22	0.013	2.5	0	0	0.618	52.462	0.658	6.529	0	0.685	35.916	0.141	0.167	99.687	12.56	24.61	100.95
Tango-Ext -23	0.061	2.51	0.0421	0	6.737	55.095	0.366	10.96	0.058	0.376	23.101	0.236	0.172	99.716	5.126	18.49	100.23
Tango-Ext -24	0.01	0.09	0.0077	0	9.024	52.589	0.361	7.934	0.005	0.395	28.494	0.075	0.154	99.138	8.027	21.27	99.942
Tango-Ext -25	0.036	0.76	0.0088	0	2.588	56.284	0.482	7.696	0.049	0.19	31.074	0.101	0.1	99.363	10.38	21.73	100.4
Tango-Ext -26	0.048	0.75	0	0	8.073	60.99	0.298	12.31	0.027	0.305	17.645	0.076	0.077	100.6	2.411	15.48	100.84
Tango-Ext -30	0.057	1.72	0.0025	0	6.715	56.862	0.291	10.91	0	0.141	22.871	0.17	0.085	99.826	5.225	18.17	100.35
Tango-Ext -31	0.058	2.96	0	0	5.52	57.461	0.19	11.88	0	0.347	21.28	0.151	0.096	99.945	4.439	17.29	100.39
Tango-Ext -34	0.059	0.08	0	0	8.415	60.053	0.277	12.2	0.033	0.441	17.794	0.067	0.043	99.468	3.529	14.62	99.821
Tango-Ext -35	0.016	0.77	0.0013	0	5.881	55.104	0.275	7.676	0.062	0.499	28.54	0.033	0.129	98.98	7.84	21.49	99.765
Tango-Ext -36	0.038	1.26	0.0139	0.021	3.31	53.069	0.573	7.765	0.039	0.451	32.17	0.222	0.121	99.048	11.44	21.88	100.19
Tango-Ext -37	0.007	0.24	0.0013	0	6.82	56.639	0.216	9.95	0.042	0.503	24.467	0.072	0.125	99.084	7.639	17.59	99.849
Tango-Ext -38	0.063	1.42	0	0	5.891	60.503	0.25	11.65	0.018	0.058	19.458	0.116	0.082	99.508	3.213	16.57	99.83
Tango-Ext -39	0.03	2.82	0	0.036	1.66	55.698	0.582	8.283	0.114	0.566	29.069	0.186	0.118	99.157	7.817	22.04	99.94
Tango-Ext -40	9E-04	1.74	0	0	2.966	56.409	0.326	8.52	0.005	0.469	28.574	0.08	0.208	99.296	8.681	20.76	100.17
Tango-Ext -42	0.009	0	0	0	12.43	54.515	0.27	11.08	0.05	0.366	20.883	0.033	0.08	99.718	4.357	16.96	100.15
Tango-Ext -43	0.087	0.18	0	0	6.174	62.611	0.174	11.76	0.041	0.101	18.62	0.072	0.045	99.868	3.616	15.37	100.23
Tango-Ext -44	0.034	0.2	0.0013	0	10.15	57.908	0.246	11.66	0.042	0.288	19.185	0.078	0.136	99.923	3.598	15.95	100.28
Tango-Ext -45	0.012	0.53	0.0103	0.057	11.99	49.952	0.251	10.81	0.036	0.516	24.871	0.202	0.181	99.425	8.321	17.38	100.26
Tango-Ext -46	0.018	0.14	0.0307	0.083	7.821	55.698	0.193	10.28	0.069	0.454	24.815	0.137	0.172	99.911	8.249	17.39	100.74
Tango-Ext -47	0.058	0.31	0	0.014	6.238	63.925	0.267	11.71	0	0	16.796	0.072	0.13	99.52	1.312	15.61	99.652
Tango-Ext -49	0.069	1.15	0.0076	0	5.881	63.021	0.132	11.87	0.048	0.37	17.208	0.128	0.112	99.996	1.842	15.55	100.18
Tango-Ext -53	0.035	2.62	0	0.023	1.586	55.218	0.412	7.895	0.041	0.643	30.59	0.053	0.2	99.316	9.195	22.32	100.24
Tango-Ext -55	0.071	1.11	0.0101	0	4.227	57.982	0.192	7.789	0.06	0.199	27.798	0.038	0.074	99.552	6.632	21.83	100.22
Tango-Ext -58	0.033	0.07	0	0.026	9.027	52.986	0.303	8.609	0.034	0.444	27.555	0.108	0.326	99.524	8.367	20.03	100.36
Tango-Ext -60	0.021	3.12	0	0	2.162	52.313	0.484	7.947	0.038	0.558	32.198	0.163	0.116	99.12	10.36	22.87	100.16
Tango-Ext -63	0.008	1.6	0	0.006	1.312	60.431	0.348	8.712	0.004	0.473	26.447	0.139	0.16	99.639	6.953	20.19	100.34
Tango-Ext -64	0.026	0.29	0	0.039	3.32	65.724	0.187	10.17	0.017	0.3	19.735	0	0.188	99.995	2.817	17.2	100.28
Tango-Ext -65	0.022	3.1	0.0164	0.017	1.951	53.104	0.392	7.851	0.048	0.501	31.646	0.177	0	98.827	9.729	22.89	99.802
Tango-Ext -66	0.002	1.54	0.0666	0	1.739	56.814	0.333	7.406	0	0.578	30.536	0.127	0.123	99.269	9.367	22.11	100.21
Tango-Ext -67	0.015	0.37	0.0091	0	15.82	48.264	0.152	11.17	0.016	0.354	23.003	0.15	0.228	99.555	6.323	17.31	100.19
Tango-Ext -68	0.035	1.04	0	0	7.712	57.25	0.345	11.1	0.048	0.241	21.924	0.119	0.09	99.911	5.039	17.39	100.42
Tango-Ext -70	0.026	0.36	0	0	3.351	63.147	0.198	9.668	0.062	0.46	22.194	0.12	0.034	99.619	4.925	17.76	100.11
Tango-Ext -71	0.032	0.19	0	0.049	8.34	59.642	0.162	12.03	0.072	0.379	18.467	0.074	0.107	99.548	4.12	14.76	99.961
Tango-Ext -72	0.043	3.03	0	0.05	4.086	52.982	0.491	9.341	0.022	0.492	28.483	0.085	0.145	99.254	8.127	21.17	100.07
Tango-Ext -73	0.001	0.2	0.0039	0.038	10.39	52.917	0.251	9.759	0.046	0.468	25.048	0.03	0.189	99.342	7.202	18.57	100.06
Tango-Ext -74	0.012	0.6	0	0.032	10.64	54.752	0.219	10.82	0.011	0.344	21.902	0.117	0.157	99.605	4.944	17.45	100.1
Tango-Ext -75	0.006	0.12	0	0	9.047	56.261	0.334	9.91	0.069	0.388	23.07	0.03	0.114	99.353	5.344	18.26	99.889
Tango-Ext -76	0.027	0	0	0.024	13.53	52.679	0.314	11	0.016	0.398	21.324	0.12	0.158	99.583	4.595	17.19	100.04
Tango-Ext -77	0.066	0.91	0.0242	0	5.787	60.737	0.317	10.44	0.016	0.341	20.87	0.133	0.159	99.796	3.411	17.8	100.14
Tango-Ext -78	0.07	0.54	0.0689	0	7.302	60.707	0.302	11.64	0.012	0.425	19.491	0.107	0.117	100.78	3.656	16.2	101.14
Tango-Ext -79	0.024	0.61	0.0381	0	6.203	58.708	0.244	9.343	0	0.429	24.174	0.084	0.201	100.05	5.56	19.17	100.61
Tango-Ext -80	0.012	0.01	0	0	13	53.806	0.389	11.19	0.027	0.29	20.654	0.102	0.078	99.549	3.982	17.07	99.948

Tango-Extension Chromite

Sample	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Tango-Ext -81	0.023	0.15	0.018	0	10.16	55.817	0.251	10.76	0.091	0.418	21.951	0.147	0.261	100.05	5.511	16.99	100.6
Tango-Ext -82	0.047	2.16	0	0	4.846	58.237	0.294	10.9	0.013	0.387	22.13	0.095	0.114	99.223	4.738	17.87	99.698
Tango-Ext -83	0.02	1.99	0.0115	0	6.983	51.152	0.276	8.538	0.081	0.46	29.698	0.178	0.066	99.452	9.042	21.56	100.36
Tango-Ext -84	0.034	4.08	0	0	0.899	48.295	0.468	6.679	0.006	0.53	37.795	0.104	0.267	99.161	13.63	25.53	100.53
Tango-Ext -85	0.024	0.54	0	0	5.219	56.168	0.35	8.55	0.022	0.522	27.818	0.092	0.071	99.372	8.557	20.12	100.23
Tango-Ext -86	0.018	2.94	0.0126	0.032	1.929	53.889	0.421	7.88	0.007	0.389	31.146	0.26	0.121	99.041	9.313	22.77	99.974
Tango-Ext -87	0.085	0.32	0.0445	0.013	6.046	63.614	0.241	11.63	0.019	0.337	17.566	0.047	0.066	100.04	2.141	15.64	100.25
Tango-Ext -88	0.055	0	0	0.01	12.83	55.149	0.271	11.17	0.035	0.36	20.189	0.063	0.206	100.34	3.516	17.03	100.69
Tango-Ext -90	0.007	0.26	0.0454	0	13.81	45.642	0.133	9.421	0.035	0.424	29.195	0.146	0.168	99.292	10.74	19.53	100.37
Tango-Ext -91	0.025	0.48	0.0525	0.024	8.18	61.789	0.184	12.37	0.026	0.31	16.408	0.055	0.12	100.02	1.794	14.79	100.2
Tango-Ext -92	0.01	2.25	0	0	1.563	57.644	0.313	8.236	0	0.57	28.318	0.146	0.158	99.208	7.83	21.27	99.992
Tango-Ext -27*	0.026	2.47	0.05	0.04	1.45	57.422	0.506	8.472	0.03	0.268	27.884	0.14	0.157	98.912	6.94	21.64	99.607
Tango-Ext -45*	0.094	0.94	0.0519	0.028	5.867	62.839	0.277	11.77	0.034	0.27	17.144	0.117	0.087	99.516	1.463	15.83	99.663
Tango-Ext -48*	0.026	0.36	0	0	9.208	54.698	0.281	9.641	0.064	0.287	24.56	0.174	0.18	99.476	6.383	18.82	100.12
Tango-Ext -84*	0.008	0.44	0	0	8.99	54.049	0.27	9.682	0.077	0.452	24.968	0.145	0.122	99.201	7.102	18.58	99.913
Tango-Ext -85*	0.002	0.29	0	0	9.11	54.73	0.299	9.615	0.021	0.389	24.19	0.106	0.053	98.807	6.11	18.69	99.419
Tango-Ext -86*	0.026	2.26	0	0	4.701	59.261	0.229	11.24	0.067	0.291	21.15	0.092	0.103	99.422	4.197	17.37	99.843
Tango-Ext -87*	0.038	0.36	0.0115	0	7.97	60.468	0.231	12.16	0.061	0.348	18.143	0.096	0.17	100.06	3.62	14.89	100.42

* These chromite grains were mixed in with the Tango-Extension ilmenite analyses

Tango-Extension Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Tango-Ext -179	red	40.82	0.2919	16.9809	8.4613	18.819	6.043	0.477	7.834	0.025	0.0564	0	99.809
Tango-Ext -180	red	41.546	0.0819	18.261	6.6468	19.646	5.728	0.3729	7.465	0.013	0.0356	0	99.797
Tango-Ext -181	red	41.302	0.1346	18.5412	6.6576	19.811	5.337	0.5089	7.883	0	0.0344	0	100.21
Tango-Ext -182	red	41.323	0.0669	18.8521	5.9419	19.015	5.938	0.4109	8.015	0	0.0164	0	99.579
Tango-Ext -183	red	41.044	0.0625	17.0062	8.8016	18.242	7.057	0.4883	7.464	0.01	0.0136	0	100.19
Tango-Ext -184	red	41.349	0.0674	18.7619	6.4068	19.677	5.469	0.4179	7.623	0	0.0109	0	99.783
Tango-Ext -185	red	41.918	0.0892	20.0269	4.5543	20.015	5.077	0.4044	8.174	0	0.0183	0	100.28
Tango-Ext -186	red	41.575	0.3055	19.5937	4.9755	20.225	5.14	0.3763	7.692	0	0.0521	0.009	99.944
Tango-Ext -187	red	41.429	0.2084	19.1859	5.7915	19.919	5.372	0.4434	7.805	0.024	0.0405	0	100.22
Tango-Ext -188	red	41.39	0.2037	17.9352	7.1788	19.976	5.225	0.4148	7.27	0.046	0.0467	0	99.686
Tango-Ext -189	red	41.564	0.054	22.0537	1.9626	18.347	5.16	0.5196	10.42	0.069	0.0079	0.0187	100.18
Tango-Ext -190	red	41.412	0.0461	20.9456	3.6258	20.015	4.78	0.4499	8.026	0.03	0.031	0	99.36
Tango-Ext -191	red	41.736	0.3118	20.1463	4.5913	20.462	4.934	0.3764	7.615	0	0.0423	0	100.22
Tango-Ext -192	red	41.793	0.1926	20.4697	4.2748	20.017	4.95	0.3807	7.858	0.001	0.0327	0.0322	100
Tango-Ext -193	red	41.42	0.2206	19.4325	5.5318	20.016	5.048	0.4449	7.689	0.059	0.0421	0.0201	99.924
Tango-Ext -194	red	40.749	0.2055	16.8197	8.278	17.922	6.874	0.4728	7.993	0.018	0.0528	0	99.385
Tango-Ext -195	red	41.959	0.2956	20.402	3.9909	20.593	4.643	0.3399	7.956	0.003	0.0571	0	100.24
Tango-Ext -196	red	41.803	0.184	20.2135	4.4909	20.193	4.967	0.4707	7.968	0.024	0.0379	0	100.35
Tango-Ext -197	red	41.569	0.2247	20.0422	4.4869	19.965	4.92	0.3818	8.278	0	0.0436	0	99.91
Tango-Ext -198	red	41.66	0.1234	19.5908	5.3527	19.881	5.457	0.3718	7.54	0.032	0.0175	0.0022	100.03
Tango-Ext -199	red	41.496	0.234	19.2774	6.1507	20.064	5.251	0.3969	7.724	0.013	0.0396	0.0069	100.65
Tango-Ext -200	red	41.582	0.0714	19.6067	5.5893	20.2	5.199	0.3572	7.698	1E-04	0.0337	0	100.34
Tango-Ext -201	orange	40.415	0.2332	21.5359	0.1224	11.365	12.3	0.3503	13.66	0.01	0.0348	0	100.03
Tango-Ext -202	orange	40.056	0.2781	21.5115	0.099	11.421	12.38	0.3955	13.51	0.016	0.0368	0	99.708
Tango-Ext -203	orange	40.415	0.2576	21.8044	0.0561	11.375	12.5	0.4118	13.47	0.037	0.0317	0	100.37
Tango-Ext -204	orange	40.623	0.0768	22.4646	0.1911	15.574	4.234	0.3599	16.18	0.054	0.0271	0	99.782
Tango-Ext -205	orange	42.422	0.3153	22.0059	1.7174	20.595	4.303	0.3856	9.017	0.022	0.0553	0	100.84
Tango-Ext -206	orange	42.358	0.3354	23.3135	0.2662	21.717	3.811	0.3726	7.986	0	0.0606	0	100.22
Tango-Ext -207	orange	40.197	0.3056	21.753	0.1082	11.451	12.33	0.3839	13.43	0.019	0.0185	0	99.994
Tango-Ext -208	orange	40.292	0.225	21.6938	0.1047	11.616	12.35	0.4077	13.45	0	0.0178	0.0139	100.17
Tango-Ext -209	orange	40.517	0.2472	21.741	0.1247	12.492	10.62	0.4035	13.84	0	0.0375	0.0782	100.1
Tango-Ext -210	orange	40.011	0.2834	21.5475	0.0915	11.355	12.31	0.3584	13.47	0.009	0.0331	0	99.475
Tango-Ext -211	orange	40.177	0.2782	21.4141	0.106	11.416	12.48	0.3583	13.66	0.004	0.022	0	99.918
Tango-Ext -212	orange	40.358	0.2566	21.6865	0.1097	11.506	12.32	0.4346	13.51	0	0.0241	0.0047	100.2
Tango-Ext -213	orange	40.229	0.2467	21.7816	0.1041	11.599	12.35	0.3753	13.53	0.034	0.025	0	100.28
Tango-Ext -214	orange	40.211	0.2972	21.7338	0.0497	11.37	12.33	0.3726	13.43	0.054	0.0246	0	99.878
Tango-Ext -216	orange	40.458	0.267	21.4794	0.0319	11.523	12.36	0.353	13.7	0.003	0.0211	0	100.2
Tango-Ext -217	orange	42.413	0.2177	22.9316	0.8394	21.523	3.886	0.3823	7.877	0.027	0.0458	0	100.14
Tango-Ext -218	orange	40.427	0.2703	21.6472	0.084	11.577	12.21	0.4148	13.38	0.022	0.0274	0.0204	100.08
Tango-Ext -219	orange	40.236	0.2576	21.5598	0.1741	12.091	10.92	0.3838	13.63	0.041	0.0413	0	99.329
Tango-Ext -220	orange	41.536	0.2411	22.9452	0.0983	17.807	4.111	0.3378	13.12	0	0.0735	0.011	100.28
Tango-Ext -221	orange	40.34	0.2431	21.6388	0.1078	11.518	12.46	0.3179	13.4	0	0.018	0	100.04
Tango-Ext -222	orange	42.404	0.1829	23.3929	0.2234	19.516	3.983	0.3559	10.59	0	0.0418	0.0096	100.7
Tango-Ext -223	orange	39.234	0.0579	21.9107	0.0203	7.978	9.378	0.4396	21.03	0	0.0204	0	100.07
Tango-Ext -224	orange	40.088	0.2393	21.4795	0.0972	11.409	12.3	0.4445	13.19	0.015	0.0333	0	99.291
Tango-Ext -225	orange	41.704	0.2663	22.4688	0.2831	18.896	4.756	0.3981	11.05	0	0.0374	0.0312	99.895
Tango-Ext -226	orange	40.17	0.092	22.4429	0.0715	11.957	8.329	0.3962	16.73	0.028	0.0403	0.0075	100.26
Tango-Ext -227	orange	42.256	0.2753	22.942	0.4434	20.674	3.748	0.4398	9.277	0.001	0.0677	0.0315	100.16
Tango-Ext -228	orange	41.85	0.2931	22.8706	0.2656	18.895	4.722	0.3698	11.15	0	0.0521	0	100.47
Tango-Ext -229	orange	40.334	0.2974	21.5888	0.1023	11.46	12.28	0.3743	13.34	0.025	0.0387	0	99.842
Tango-Ext -230	orange	39.989	0.2974	21.3499	0.1734	12.176	10.86	0.4833	14.07	0.029	0.0391	0.007	99.477
Tango-Ext -231	orange	38.895	0.0327	21.7767	0.0571	7.2918	8.034	0.4546	23.95	0	0.0249	0	100.52
Tango-Ext -232	orange	40.223	0.2694	21.462	0.0915	11.375	12.38	0.3755	13.69	0.018	0.0351	0.0217	99.936
Tango-Ext -233	orange	40.031	0.2761	21.2961	0.0435	11.233	12.34	0.3489	13.45	0.016	0.0336	0.0512	99.12
Tango-Ext -234	orange	40.458	0.2919	21.5932	0.2058	11.994	10.83	0.485	13.85	0.033	0.037	0.01	99.792
Tango-Ext -235	orange	40.389	0.2643	21.4067	0.0951	11.445	12.25	0.4207	13.4	0.053	0.0303	0	99.753
Tango-Ext -236	orange	40.343	0.2842	21.8774	0.0718	11.499	12.42	0.3841	13.53	0	0.0441	0.0038	100.46
Tango-Ext -237	orange	40.35	0.2738	21.5025	0.1097	11.373	12.33	0.356	13.48	0.004	0.0416	0.0121	99.825
Tango-Ext -238	orange	40.359	0.2701	21.5727	0.0983	11.522	12.45	0.325	13.54	0.025	0.027	0.0067	100.2

Tango-Extension Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Tango-Ext -239	orange	40.675	0.2364	21.6857	0.0784	11.569	12.33	0.4234	13.65	0.006	0.0333	0	100.69
Tango-Ext -240	orange	40.222	0.2687	21.5429	0.0471	11.583	12.4	0.3771	13.31	0	0.0319	0.0108	99.793
Tango-Ext -241	orange	40.047	0.2189	21.6995	0.1254	11.519	12.2	0.3799	13.57	0	0.0348	0.0533	99.839
Tango-Ext -242	orange	40.042	0.252	21.685	0.0834	11.598	12.33	0.37	13.65	0.007	0.0392	0.0084	100.06
Tango-Ext -243	orange	40.467	0.2423	21.3588	0.1037	11.416	12.55	0.3547	13.5	0.009	0.027	0	100.03
Tango-Ext -244	orange	39.988	0.2577	21.489	0.0667	11.409	12.39	0.3517	13.73	0	0.0247	0.003	99.704
Tango-Ext -246	orange	40.441	0.2514	21.6568	0.1751	12.547	10.53	0.4879	13.89	0	0.0337	0.0187	100.03
Tango-Ext -247	orange	40.205	0.284	21.4173	0.1772	12.184	10.98	0.4626	13.8	0.023	0.0405	0	99.569
Tango-Ext -248	orange	40.477	0.1033	22.7725	0.0345	12.167	8.07	0.3221	17.03	0.05	0.0557	0	101.08
Tango-Ext -249	orange	40.235	0.252	21.566	0.2049	12.057	11.21	0.4387	13.96	0.01	0.0288	0	99.969
Tango-Ext -250	orange	40.459	0.2932	21.5021	0.0886	11.47	12.4	0.3336	13.74	0.019	0.024	0.0144	100.35
Tango-Ext -251	orange	40.533	0.2439	21.7412	0.1276	12.731	10.51	0.443	13.91	0	0.0373	0.0222	100.29
Tango-Ext -252	orange	40.331	0.2585	21.675	0.1529	12.413	10.84	0.478	14.1	0	0.0424	0	100.29
Tango-Ext -253	orange	40.379	0.2356	21.3771	0.1114	11.512	12.32	0.3786	13.4	0.038	0.0261	0.0474	99.83
Tango-Ext -254	orange	40.313	0.2787	21.5558	0.2118	12.096	11.04	0.4259	14.18	0	0.0351	0.0186	100.16
Tango-Ext -255	orange	40.346	0.2526	21.7362	0.129	11.497	12.34	0.3939	13.46	0	0.0261	0.034	100.21
Tango-Ext -256	orange	41.943	0.224	21.0057	3.557	20.415	4.782	0.4364	8.221	0.018	0.0388	0.0071	100.65
Tango-Ext -257	orange	40.184	0.2479	21.4227	0.0794	11.515	12.24	0.3842	13.23	0.063	0.0344	0.0464	99.445
Tango-Ext -258	orange	40.455	0.2618	21.5846	0.1882	12.116	10.99	0.4401	14.08	0	0.0364	0.0351	100.19
Tango-Ext -259	orange	40.335	0.271	21.4482	0.131	11.507	12.28	0.3504	13.47	0	0.0209	0	99.818
Tango-Ext -260	orange	40.317	0.2783	21.6198	0.2063	12.211	10.88	0.4738	14.05	0	0.0409	0.0065	100.08
Tango-Ext -261	orange	39.92	0.1089	22.3458	0.0085	12.218	6.887	0.4349	18.08	0.001	0.0329	0	100.04
Tango-Ext -262	orange	40.359	0.243	21.6328	0.1857	12.149	10.94	0.433	14.06	0.026	0.0207	0.0057	100.06
Tango-Ext -263	red	42.042	0.2767	21.2371	3.212	20.968	4.372	0.4199	7.676	0.019	0.0545	0.0108	100.29

Tango-Extension Ilmenite

Sample	c/r	SiO_2	TiO_2	Nb_2O_5	Ta_2O_5	Al_2O_3	Cr_2O_3	V_2O_5	MgO	CaO	MnO	FeO^*	NiO	ZnO	Total	Fe_2O_3	FeO	Total	ilmenite	geikelite	hematite	Total
Tango-Ext -1	core	0.01	50.56	0.2366	0.0535	0.0621	2.9978	0.1123	10.05	0.033	0.3656	34.019	0.087	0	98.588	7.2	27.54	99.309	56.513	36.795	6.691	100
Tango-Ext -2	core	0.026	50.19	0.2985	0.0806	0.0938	4.239	0.1102	11.052	0.009	0.3082	32.616	0.184	0.093	99.296	7.983	25.43	100.1	52.123	40.447	7.430	100
Tango-Ext -3	core	0.002	50.28	0.2302	0.067	0.06	3.602	0.2786	10.513	0.024	0.2094	32.811	0.118	0.04	98.235	6.656	26.82	98.902	55.181	38.603	6.215	100
Tango-Ext -4	core	0.018	50.74	0.1782	0	0.152	3.0713	0.1152	10.474	0.031	0.3801	34.07	0.11	0	99.344	8.043	26.83	100.15	54.631	38.001	7.367	100
Tango-Ext -5	core	0.02	51.52	0.2898	0.0451	0.033	4.1868	0.2069	11.913	0.049	0.3781	30.58	0.256	0.082	99.557	6.174	25.02	100.18	50.993	43.310	5.697	100
Tango-Ext -6	core	0.013	51.67	0.192	0.0181	0.1595	3.5689	0.2344	11.654	0.018	0.2911	31.237	0.233	0.016	99.304	6.101	25.75	99.915	52.251	42.163	5.585	100
Tango-Ext -7	core	0.004	50.37	0.1978	0.0303	0.0162	3.9449	0.2186	10.183	0	0.4208	33.171	0.122	0.037	98.717	6.684	27.16	99.386	56.184	37.570	6.246	100
Tango-Ext -8	core	0	49.61	0.3723	0.0258	0.0519	2.4805	0.39	9.7774	0	0.3826	35.965	0.049	0.074	99.18	9.156	27.73	100.1	56.251	35.370	8.380	100
Tango-Ext -9	core	0	51.85	0.1684	0.0406	0.1273	3.3345	0.2297	11.268	0.001	0.2888	31.236	0.153	0.016	98.71	5.088	26.66	99.22	54.335	40.968	4.697	100
Tango-Ext -10	core	0.003	52.48	0.1757	0.02	0.1696	3.3428	0.0393	11.368	0	0.4937	31.344	0.143	0	99.578	5.309	26.57	100.11	53.964	41.169	4.868	100
Tango-Ext -11	core	0.032	50.41	0.2287	0.0309	0	3.6029	0.3953	10.131	0.044	0.3945	33.075	0.139	0	98.483	6.065	27.62	99.09	57.032	37.308	5.660	100
Tango-Ext -12	core	0.04	53.62	0.134	0	0.1589	3.3285	0	13.472	0	0.3096	27.691	0.217	0.096	99.069	4.325	23.8	99.502	47.836	48.253	3.911	100
Tango-Ext -13	core	0.025	51.29	0.1896	0.0374	0.0723	3.5747	0.2118	11.503	0.018	0.2508	31.339	0.141	0.05	98.707	6.195	25.77	99.328	52.491	41.800	5.708	100
Tango-Ext -14	core	7E-04	51.08	0.2004	0.0232	0	3.5733	0.1532	10.798	0.007	0.3787	32.195	0.099	0	98.508	6.13	26.68	99.122	54.783	39.535	5.682	100
Tango-Ext -15	core	0.005	47.45	0.6855	0.1283	0.1089	3.2252	0.2178	9.2724	0	0.3874	37.221	0.015	0.021	98.737	11.48	26.89	99.887	55.236	34.041	10.722	100
Tango-Ext -16	core	0.01	50.27	0.426	0.0522	0.1604	3.9985	0.2117	11.035	0	0.3925	32.134	0.12	0.021	98.833	6.983	25.85	99.533	53.077	40.429	6.494	100
Tango-Ext -17	core	0	48.11	0.5557	0.0774	0.0953	3.4838	0.1875	9.5746	0.001	0.4239	36.305	0.087	0.019	98.916	10.77	26.62	99.995	54.777	35.182	10.042	100
Tango-Ext -18	core	0	51.25	0.2006	0.0406	0.0625	3.5429	0.0955	11.334	0.006	0.3204	32.246	0.193	0	99.289	7.206	25.76	100.01	52.320	41.062	6.618	100
Tango-Ext -19	core	0	50.07	0.3076	0.0444	0.0216	2.7127	0.155	9.1263	0.011	0.5527	35.981	0.075	0.1	99.153	8.168	28.63	99.971	58.908	33.494	7.598	100
Tango-Ext -20	core	0.01	51.94	0.1908	0.0142	0.2017	2.1636	0.0832	11.339	0	0.2493	32.645	0.152	0	98.994	6.868	26.47	99.682	53.170	40.610	6.220	100
Tango-Ext -21	core	0.008	50.66	0.1324	0.0522	0.0935	2.3198	0.1778	9.9236	0.035	0.3254	34.933	0.072	0.098	98.832	7.914	27.81	99.625	56.644	36.060	7.295	100
Tango-Ext -22	core	7E-04	49.01	0.4838	0.0148	0.0833	3.4993	0.3335	10.157	0.057	0.4296	34.672	0	0.008	98.746	9.067	26.51	99.654	54.435	37.176	8.388	100
Tango-Ext -23	core	0.014	51.59	0.1896	0.0071	0.1093	3.4388	0.2305	11.444	0.035	0.247	31.384	0.131	0.066	98.882	5.865	26.11	99.47	53.121	41.504	5.374	100
Tango-Ext -24	core	0.02	49.91	0.3077	0	0.0566	3.3887	0.222	9.3204	0	0.3685	35.881	0.08	0.063	99.623	8.227	28.48	100.45	58.370	34.043	7.587	100
Tango-Ext -25	core	0.023	50.91	0.1462	0.0097	0.156	1.7402	0.1321	9.8681	0.008	0.3778	35.729	0.082	0.037	99.222	8.487	28.09	100.07	56.748	35.531	7.722	100
Tango-Ext -26	core	0	51.5	0.264	0.0181	0	3.9345	0.1334	11.969	0	0.3494	30.299	0.146	0.035	98.649	5.925	24.97	99.243	50.977	43.566	5.457	100
Tango-Ext -28	core	0.017	50.9	0.2763	0	0.1415	4.35	0.166	11.474	0	0.3481	31.21	0.183	0.04	99.107	6.519	25.34	99.76	52.016	41.964	6.020	100
Tango-Ext -29	core	0.003	50.33	0.2709	0.0271	0.0226	3.8302	0.1372	10.378	0.034	0.5841	33.204	0.176	0.122	99.123	7.573	26.39	99.881	54.623	38.302	7.075	100
Tango-Ext -30	core	0.01	51.83	0.1449	0.0284	0.0499	2.2766	0.0687	10.928	0	0.2471	32.978	0.132	0.011	98.709	6.591	27.05	99.369	54.630	39.358	6.012	100
Tango-Ext -31	core	0.015	50.66	0.1436	0.011	0.1019	2.9977	0.142	10.319	0	0.3718	33.528	0.19	0.027	98.509	7.263	26.99	99.237	55.472	37.803	6.725	100
Tango-Ext -32	core	0.018	43.44	0.1201	0.0207	0.4358	0.636	0.5035	5.8677	0.001	0.3196	46.337	0.036	0	97.734	19.04	29.21	99.642	60.538	21.684	17.778	100
Tango-Ext -33	core	0.009	50.88	0.2003	0	0.0532	1.9371	0.1004	9.6991	0	0.4049	35.136	0.109	0.032	98.559	7.585	28.31	99.319	57.769	35.268	6.963	100
Tango-Ext -34	core	0.01	51.3	0.1386	0	0.0973	1.9757	0.1174	10.178	0.029	0.2763	34.292	0.171	0.04	98.622	7.189	27.82	99.342	56.557	36.868	6.575	100
Tango-Ext -35	core	0.014	51.63	0.197	0	0.1089	3.4854	0.1652	11.581	0	0.2587	31.32	0.159	0.013	98.934	6.072	25.86	99.542	52.526	41.924	5.550	100
Tango-Ext -36	core	0.004	51.48	0.1673	0.0213	0.1052	3.6736	0.016	11.391	0.013	0.3678	31.343	0.161	0	98.745	6.298	25.68	99.376	52.585	41.595	5.820	100
Tango-Ext -37	core	0.025	50.55	0.2597	0.1191	0.0528	2.4534	0.004	9.7156	0	0.4467	35.41	0.045	0.024	99.109	8.207	28.03	99.932	57.046	35.339	7.615	100
Tango-Ext -38	core	0.023	50.16	0.3009	0.0251	0.1227	4.1539	0.1971	10.806	0	0.324	32.639	0.237	0.005	98.996	7.41	25.97	99.739	53.458	39.659	6.883	100
Tango-Ext -39	core	0.019	47.83	0.3179	0.0897	0.0587	1.9845	0.0935	8.2631	0	0.5244	39.629	0.037	0.071	98.913	12.67	28.23	100.18	57.929	30.284	11.787	100
Tango-Ext -41	core	0.015	51.29	0.1534	0.0006	0.0717	1.9035	0.0101	9.855	0	0.33	35.023	0.171	0.021	98.842	7.535	28.24	99.597	57.410	35.699	6.891	100
Tango-Ext -42	core	0.018	50.25	0.2789	0.0503	0.0526	4.2864	0.1773	11.295	0	0.4118	32.387	0.192	0	99.395	8.109	25.09	100.21	51.296	41.203	7.501	100
Tango-Ext -43	core	0.007	51.96	0.1934	0	0.1365	2.2128	0.1109	11.463	0	0.3119	32.396	0.124	0	98.919	6.822	26.26	99.603	52.775	41.057	6.169	100
Tango-Ext -44	core	0.003	50.78	0.2104	0.0006	0.0783	2.9744	0.2401	10.367	0	0.4431	33.766	0.087	0.058	99.009	7.277	27.22	99.739	55.585	37.728	6.687	100
Tango-Ext -46	core	0.024	52.13	0.2082	0.0297	0.0838	2.9312	0.2056	11.555	0	0.3505	31.58	0.126	0.042	99.269	5.785	26.37	99.849	53.179	41.550	5.271	100
Tango-Ext -47	core	0.027	53.28	0.1588	0.0142	0.0376	3.4492	0.1306	13.042	0	0.2644	28.362	0.316	0	99.081	4.271	24.52	99.509	49.339	46.783	3.878	100
Tango-Ext -49	core	0.017	51.01	0.1708	0.0554	0.0237	1.9239	0.1787	9.7285	0.003	0.3701	35.212	0.101	0.021	98.812	7.39	28.56	99.553	57.973	35.233	6.794	100
Tango-Ext -50	core	0.002	52.02	0.1897	0	0.1493	3.5732	0	11.288	0.005	0.3308	30.965	0.189	0.035	98.742	5.167	26.31	99.259	53.974	41.258	4.768	100
Tango-Ext -51	core	0.007	49.18	0.5161	0.1282	0.1825	3.543	0.2523	9.9131	0.05	0.4225	34.714	0.081	0	98.987	8.534	27.04	99.842	55.573	36.424	8.003	100
Tango-Ext -52	core	0	51.21	0.197	0.0439	0.1376	2.1284	0.2078	10.35	0	0.2987	34.489	0.156	0.048	99.266	7.565	27.68	100.02	55.849	37.248	6.903	100
Tango-Ext -53	core	0.013	51.74	0.1362	0.009	0.1796	1.7976	0.13	10.078	0.02	0.4343	34.239	0.071	0	98.849	6.478	28.41	99.498	57.637	36.443	5.920	100
Tango-Ext -54	core	0.009	50.45	0.2082	0.0445	0.0323	3.7754	0	10.69	0.028	0.3404	33.201	0.165	0.029	98.974	7.982	26.02	99.774	53.428	39.159	7.412	100
Tango-Ext -55	core	0.01	49	0.498	0.0748	0.0401	3.5704	0.242	9.9654	0	0.357	34.595	0.118	0.013	98.49	8.659	26.8	99.357	55.242	36.665	8.093	100
Tango-Ext -57	core	0.031	50.51	0.1572	0.0438	0.0761	2.9254	0	9.8031	0.018	0.2369	34.491	0.162	0	98.457	7.466	27.77	99.205	57.102	35.955	6.943	100
Tango-Ext -58	core	0.025	49.9	0.1671	0	0.1243	3.0752	0.1057	9.5041	0.007	0.3366	35.236	0.158	0.05	98.686	8.305	27.76	99.518	57.320	34.966	7.714	100
Tango-Ext -59	core	0.014	53.62	0.0944	0.031	0.1861	3.4006	0.066	13.561	0.022	0.2389	27.725	0.203	0.029	99.187	4.36	23.8	99.624	47.641	48.410	3.950	100
Tango-Ext -60	core	0	49.78	0.281	0.0406	0	3.8044	0	9.7446	0	0.3419	34.596	0.103	0.042	98.738	8.163	27.25	99.556	56.395	35.970	7.635	100
Tango-Ext -61	core	0.028	50.91	0.1945	0.0103	0.1398	3.1053	0.0358	10.39	0	0.346	33.713	0.181	0.008	99.061	7.416	27.04	99.804	55.297	37.871	6.832	100
Tango-Ext -62	core	0.006	51.63	0.248	0.031	0.1488	3.3946	0.425	11.566	0.04	0.349	31.345	0.14	0	99.319	5.671	26.24	99.887	53.088	41.726	5.186	100
Tango-Ext -63	core	0.01	51.35	0.0929	0.0181	0.0662	1.8291	0.1581	9.7612	0	0.2605	35.017	0.192	0	98.757	7.009	28.71	99.46	58.268	35.317	6.415	100
Tango-Ext -64	core	0.008	51.74	0.1711	0.0535	0.1013	3.4877	0	11.349	0.048	0.3351	31.302	0.162	0.088	98.847	6.003	25.9	99.449	52.994	41.437	5.569	100
Tango-Ext -65	core	0.015	51.5	0.2465	0.0322	0.049	2.2545	0.2334	10.547	0.041	0.4277	33.416	0.141	0.019	98.92	6.52	27.55	99.573	55.876	38.149	5.975	100
Tango-Ext -66	core	0.006	50.88	0.2699	0.0232	0.0164	3.8502	0.1701	10.423	0.027	0.4827	33.47	0.188	0	99.806	7.125	27.06	100.52	55.383	38.037	6.580	100
Tango-Ext -67	core	0.008	51.5	0.1908	0.0193	0.1127	2.1886	0.4004	10.682	0.046	0.2961	33.295	0.094	0	98.837	6.226	27.69	99.461	55.894	38.437	5.669	100
Tango-Ext -68	core	0.016	51.31	0.1688	0.0626	0.0766	3.4076	0.0974	11.502	0.009	0.3564	31.19	0.166	0.098	98.461	6.408	25.42	99.103	52.032	42.016	5.952	100
Tango-Ext -69	core	0	51.09	0.2602	0.0135	0.015	3.6813	0.0549	10.828	0.03	0.4865	32.005	0.181	0.029	98.679	6.343	26.3	99.315	54.267	39.833	5.900	100
Tango-Ext -70	core	0.005	51.68	0.2119	0.0438	0.0419	3.4869	0.091	11.305	0	0.4236	31.174	0.155	0.021	98.641	5.595	26.14	99.202	53.519	41.292	5.189	100
Tango-Ext -71	core	7E-04	50.91	0.2466	0.0999	0.0325	4.0169	0.0254	10.58	0	0.3465	32.537	0.117	0.095	99.013	6.425	26.76	99.656	55.069	38.900	6.031	100
Tango-Ext -72	core	0.015	51.2	0.1799	0.071	0.0776	3.6295	0.1709	11.481	0	0.3524	31.498	0.248	0.053	98.975	6.7	25.47	99.646	51.969	41.822	6.209	100
Tango-Ext -73	core	0.024	51.2	0.1647	0.0084	0	3.735	0.0652	10.641	0.001	0.3633	33.017	0.124	0	99.346	6.789	26.91	100.03	54.993	38.759	6.249	100
Tango-Ext -74	core	0.028	53.58	0.1119	0.0381	0.2392	3.4342	0.0175	13.561	0.007	0.1671	27.664	0.198	0.005	99.05	4.237	23.85	99.475	47.739	48.417	3.844	100
Tango-Ext -75	core	0.027	51.38	0.1932	0	0.0401	1.9463	0	9.7917	0.045	0.3307	34.825	0.106	0.013	98.702	7.038	28.49	99.407	58.020	35.532	6.448	100
Tango-Ext -76	rim	0.002	50.35	0.2799	0.1232	0.0457	3.0679	0.2882	10.137	0	0.426	34.379	0.143	0	99.242	7.664	27.48	100.01	55.975	36.900	7.125	100
Tango-Ext -77	core	8E-04	50.66	0.2008	0.0665	0.008	3.0689	0.0843	10.256	0	0.3762	34.099	0.082	0.074	98.973	7.726	27.15	99.747	55.453	37.391	7.156	100
Tango-Ext -78	rim	0.002	50.71	0.201	0.0413	0	3.8916	0.0299	11.071	0.016	0.3779	31.423	0.148	0	97.909	6.454	25.62	98.555	53.051	40.902	6.047	100
Tango-Ext -79	core	0.017	50.81	0.2144	0.0413	0	3.6668	0.1553	10.904	0	0.3824	32.243	0.152	0.011	98.6	6.666	26.24	99.267	53.878	39.931	6.191	100
Tango-Ext -80	rim	0.011	51.13	0.1239	0	0.1171	2.0019	0.1265	10.209	0.016	0.2894	34.234	0.099	0	98.356	7.238	27.72	99.081	56.377	37.000	6.623	100
Tango-Ext -81	core	0.022	51.71	0.1264	0.0258	0.1007	2.0143	0.0334	10.21	0	0.4526	34.168	0.078	0	98.945	6.845	28.01	99.631	56.810	36.923	6.267	100
Tango-Ext -82	rim	0	50.37	0.2362	0.0477	0.0145	2.5395	0	8.6928	0	0.5838	37.181	0.076	0	99.745	8.616	29.43	100.61	60.266	31.756	7.978	100
Tango-Ext -83	core	0	49.31	0.2969	0	0.0578	2.5785	0.1662	8.7047	0.025	0.2919	37.49	0.094	0	99.011	9.444	28.99	99.958	59.467	31.817	8.715	100
Tango-Ext -27*	core	4E-04	50.9	0.2882	0.0996	0	3.5588	0.062	10.484	0.03	0.4103	33.33	0.114	0	99.278	7.034	27	99.983	55.179	38.272	6.549	100
Tango-Ext -28*	core	0.021	48.68	0.2557	0.0395	0	2.4247	0.1399	8.4078	0.072	0.5053	38.503	0.072	0.005	99.13	10.93	28.67	100.23	58.987	30.857	10.156	100

Tango-Extension Ilmenite

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
Tango-Ext -29*	core	0.012	51.56	0.2211	0.0304	0.0975	2.1899	0	10.104	0.019	0.3382	34.528	0.03	0	99.129	6.993	28.24	99.83	57.144	36.464	6.391	100
Tango-Ext -32*	core	0.016	50.8	0.1893	0.0538	0.0442	3.7687	0	11.56	0.022	0.2272	31.992	0.243	0	98.912	7.944	24.84	99.708	50.629	42.041	7.329	100
Tango-Ext -33*	core	0.019	51.83	0.139	0.0575	0.0662	1.8082	0.0673	9.7911	0.003	0.4099	35.407	0.128	0	99.726	7.191	28.94	100.45	58.263	35.177	6.560	100
Tango-Ext -41*	core	0.021	50.92	0.4062	0.126	0	3.6643	0.1553	10.411	0.085	0.4299	33.132	0.156	0	99.508	6.44	27.34	100.15	55.913	38.059	6.028	100
Tango-Ext -48*	core	0.004	45.78	0.8297	0.0628	0.0644	2.6328	0.1281	7.8403	0.016	0.489	40.297	0.08	0	98.228	13.94	27.75	99.625	57.762	29.122	13.116	100
Tango-Ext -50*	core	0.012	51.66	0.163	0.0032	0.0999	1.8593	0	9.9985	0	0.3146	34.754	0.164	0.061	99.086	7.177	28.3	99.805	57.344	36.110	6.546	100
Tango-Ext -51*	core	0.004	50.48	0.2113	0.0356	0.0975	3.644	0	10.315	0	0.4057	33.736	0.047	0.013	98.989	7.705	26.8	99.761	55.058	37.791	7.151	100
Tango-Ext -52*	core	0.027	49.17	0.3144	0	0.0497	2.8184	0.0747	9.2646	0	0.2638	36.978	0.099	0	99.062	10.16	27.84	100.08	56.905	33.750	9.345	100
Tango-Ext -54*	core	0	52.88	0.0784	0.0279	0.2157	2.1697	0	11.644	0.023	0.3821	31.837	0.147	0.059	99.466	6.156	26.3	100.08	52.762	41.660	5.578	100
Tango-Ext -56*	core	0.009	50.92	0.2249	0.0201	0.1234	2.5103	0.0858	9.8893	0	0.3706	34.718	0.115	0.056	99.038	7.432	28.03	99.782	57.190	35.972	6.839	100
Tango-Ext -57*	core	0.003	51.41	0.1727	0.0071	0.0849	2.0353	0	10.027	0	0.3523	35.024	0.074	0.053	99.244	7.714	28.08	100.02	56.816	36.156	7.027	100
Tango-Ext -61*	core	0.008	40.68	0.0037	0	0.5137	0.1764	0.4662	5.0294	0.035	0.0261	50.479	0.031	0	97.448	24.68	28.27	99.921	58.483	18.542	22.975	100
Tango-Ext -62*	core	0.003	48.86	0.2629	0.0194	0	1.9252	0.1055	7.6761	0.007	0.3537	39.695	0.033	0.058	98.997	10.47	30.27	100.05	62.193	28.113	9.694	100
Tango-Ext -93*	core	0.017	50.79	0.2421	0.0362	0.0427	2.2387	0.0007	9.073	0	0.5695	36.514	0.052	0.074	99.648	8.22	29.12	100.47	59.409	33.015	7.576	100

* These ilmenite grains were mixed in with the Tango-Extension chromite analyses

Tango-Extension Pyroxene

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Tango-Ext -1	55.081	0.1616	0.5325	2.0432	16.336	22.32	0.0559	2.183	0.059	1.4812	0.026	100.28
Tango-Ext -2	54.62	0.2245	1.2186	1.1385	15.765	20.28	0.1373	4.171	0.022	1.9447	0	99.524
Tango-Ext -3	54.457	0.2439	1.3108	1.1126	15.772	20.34	0.1187	4.345	0.034	1.9901	0	99.719

Tango-Extension Olivine

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Tango-Ext -1	40.809	0	0.1409	0.0021	50.397	0	0.1429	7.816	0.379	0	0	99.687
Tango-Ext -3	40.953	0.026	0	0	50.739	0	0.1389	7.879	0.36	0	0	100.1
Tango-Ext -4	41.166	0.0194	0	0.019	50.99	0.037	0.1416	7.481	0.368	0.0097	0	100.23
Tango-Ext -6	41.166	0	0	0.0286	50.39	0.023	0.1872	8.01	0.368	0	0	100.17
Tango-Ext -7	40.613	0.0259	0	0.0397	48.945	0	0.1174	9.828	0.341	0.0069	0	99.916
Tango-Ext -8	41.082	0.008	0	0.0036	49.907	0.009	0.1447	7.971	0.286	0.0045	0	99.416
Tango-Ext -9	40.722	0	0	0.0154	49.073	0.017	0.119	9.344	0.39	0.0123	0.003	99.695
Tango-Ext -10	41.175	0	0	0.0246	50.311	0	0.1378	7.407	0.41	0.002	0	99.468
Tango-Ext -11	40.169	0.0469	0	0.0113	47.063	0	0.1454	11.99	0.247	0.0105	0	99.687

Uniform-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Uniform-1 -1	dk purple	40.404	0.1595	17.0054	8.2993	18.901	6.462	0.3655	7.492	0	0.0201	0.01	99.119
Uniform-1 -2	dk purple	41.109	0.2493	17.7779	6.8822	19.584	5.451	0.3843	7.446	0	0.0781	0	98.963
Uniform-1 -3	dk purple	37.132	0	21.1572	0.0562	4.2713	1.97	1.7201	33.79	0	0.0057	0.012	100.11
Uniform-1 -4	dk purple	41.312	0.4116	18.4203	6.5449	20.863	3.689	0.3654	7.891	0.072	0.1171	0	99.687
Uniform-1 -5	dk purple	41.304	0.3024	18.1703	7.4048	19.867	5.202	0.4743	7.596	0.042	0.0731	0	100.44
Uniform-1 -6	dk purple	40.812	0.1616	17.1551	8.3756	18.997	6.486	0.3942	7.409	0	0.0308	0	99.821
Uniform-1 -7	dk purple	37.178	0	21.0566	0	4.4846	1.847	1.9678	33.25	0	0.0161	0	99.803
Uniform-1 -8	dk purple	41.682	0.5014	18.3887	6.3933	20.851	3.857	0.4049	7.616	0	0.119	0.016	99.829
Uniform-1 -9	dk purple	40.794	0.1277	17.002	8.398	18.948	6.398	0.3384	7.391	0.016	0.05	0	99.463
Uniform-1 -10	dk purple	41.561	0.4415	19.2123	5.1896	21.064	3.575	0.3869	8.069	0.022	0.1136	0	99.634
Uniform-1 -11	dk purple	41.251	0.4072	18.1646	6.6843	20.043	4.697	0.3889	8.59	0.029	0.122	0	100.38
Uniform-1 -12	dk purple	40.941	0.2468	17.7645	7.275	19.477	5.491	0.4269	7.599	0.028	0.0554	0	99.305
Uniform-1 -13	dk purple	37.492	0.0239	21.2899	0	4.9482	1.236	1.4662	33.7	0	0.0096	0	100.17
Uniform-1 -14	dk purple	41.389	0.1426	18.3024	6.5674	19.546	5.789	0.3769	7.567	0	0.0624	0	99.742
Uniform-1 -15	dk purple	40.992	0.0827	16.6025	8.7701	18.366	6.947	0.3131	7.38	0.003	0.0591	0	99.516
Uniform-1 -16	dk purple	41.302	0.2939	17.8832	6.9	20.345	5.077	0.336	7.671	0.041	0.0649	0.005	99.918
Uniform-1 -17	dk purple	41.097	0.2878	17.9825	6.8552	20.109	5.052	0.385	7.644	0.019	0.0639	0	99.496
Uniform-1 -18	dk purple	37.532	0.0071	21.2373	0.0495	5.1317	1.946	1.57	32.6	0.019	0.0133	0	100.11
Uniform-1 -19	dk purple	41.096	0.0553	17.3286	8.3728	18.695	6.815	0.3915	7.376	0.019	0.0167	0	100.16
Uniform-1 -20	dk purple	40.815	0.1408	17.0392	8.3215	19.003	6.461	0.3049	7.456	0.01	0.0418	0	99.593
Uniform-1 -23	purple	41.893	0.079	21.4495	3.3904	18.906	5.356	0.5665	9.198	0.025	0.0097	0	100.87
Uniform-1 -24	purple	37.334	0.012	21.373	0.0112	4.6426	1.717	1.6521	33.48	0.026	0.0067	0	100.26
Uniform-1 -25	purple	41.737	1.0145	20.8189	2.1034	20.97	3.748	0.4423	9.266	0.06	0.1087	0	100.27
Uniform-1 -26	purple	37.399	0.004	21.211	0.0287	4.446	1.458	1.6207	34.37	0	0.0065	0.002	100.54
Uniform-1 -27	purple	41.239	0.3623	18.0156	6.7253	20.152	5.057	0.3262	8.013	0.016	0.0656	0.013	99.986
Uniform-1 -28	purple	40.913	0.0684	17.304	7.9905	18.97	6.638	0.3555	7.449	0	0.0192	0	99.708
Uniform-1 -29	purple	41.015	0.3179	17.0338	8.273	19.736	5.126	0.3745	7.936	0.012	0.0799	0	99.903
Uniform-1 -30	purple	41.493	0.1441	18.2081	6.8984	19.796	5.88	0.4124	7.478	0	0.0495	0	100.36
Uniform-1 -31	purple	41.442	0	21.5673	3.2958	19.678	4.827	0.5976	8.815	0.041	0.0383	0.01	100.31
Uniform-1 -32	purple	36.86	0.0268	21.0976	0.0254	3.3879	1.253	6.2422	31.6	0.03	0.0008	0.019	100.54
Uniform-1 -33	purple	37.47	0.004	21.2407	0.032	4.0573	1.609	2.1582	34.54	0.011	0.0092	0	101.13
Uniform-1 -35	purple	41.624	0.0023	21.3864	3.2923	19.858	4.607	0.6165	8.226	0.013	0.0127	0	99.638
Uniform-1 -36	purple	37.28	0.0305	21.0003	0.0172	4.2542	1.615	1.7412	34.25	0	0	0.004	100.19
Uniform-1 -37	purple	37.316	0	21.4329	0.0028	4.4324	1.597	1.3459	34.37	0	0.0055	0.01	100.51
Uniform-1 -38	purple	41.785	1.053	20.5703	2.0863	20.564	3.821	0.3833	9.522	0.019	0.1265	0	99.93
Uniform-1 -39	purple	41.405	0.0206	21.5386	3.262	20.082	4.637	0.5942	8.164	0.016	0.0142	0.003	99.738
Uniform-1 -40	purple	41.648	0.9733	21.0415	1.9169	20.703	3.67	0.3989	9.195	0	0.1247	0.043	99.713
Uniform-1 -41	purple	37.427	0.0407	21.3725	0.0159	5.176	1	2.3547	33.33	0	0.0012	0	100.72
Uniform-1 -43	purple	41.569	0.4041	19.2147	5.3192	21.022	3.601	0.3843	7.747	0.019	0.1186	0	99.399
Uniform-1 -44	purple	37.141	0.0159	21.1949	0.0245	4.1744	1.508	1.1421	34.9	0	0	0	100.1
Uniform-1 -45	purple	41.471	0	21.1706	3.731	19.713	4.772	0.6666	8.529	0.028	0.0161	0	100.1
Uniform-1 -46	purple	37.17	0	21.1691	0.0261	4.1593	1.486	2.2821	34.05	0.001	0.0077	0	100.35
Uniform-1 -47	purple	36.631	0	21.1235	0	3.4953	1.239	5.9888	31.7	0	0.008	0.048	100.24
Uniform-1 -48	purple	40.757	0.1049	16.9298	8.3812	18.366	6.78	0.3439	7.825	0.028	0.0776	0	99.594
Uniform-1 -49	purple	41.314	0.3169	17.7224	7.4724	20.505	4.513	0.4001	8.012	0	0.0686	0.002	100.33
Uniform-1 -50	purple	37.256	0.0022	21.4414	0.0357	4.4481	1.316	1.8731	33.8	0.049	0.0067	0	100.23
Uniform-1 -51	red	42.042	0.3664	21.4111	2.5324	21.481	2.858	0.3696	8.74	0.024	0.0663	0	99.891
Uniform-1 -52	red	41.694	0.625	20.8587	2.5233	20.998	3.502	0.3652	9.073	0.019	0.0987	0	99.757
Uniform-1 -53	red	41.763	0.861	21.1874	1.849	21.332	3.477	0.301	8.895	0.003	0.1102	0	99.778
Uniform-1 -54	red	41.561	0.9347	20.8736	1.9175	20.841	3.611	0.3919	9.39	0.009	0.1227	0	99.653
Uniform-1 -55	red	41.754	1.0571	20.9344	1.9571	20.839	3.863	0.3218	9.26	0	0.1423	0	100.13
Uniform-1 -56	red	41.794	1.5364	20.0796	2.1118	19.436	5.189	0.4809	10.37	0	0.1985	0	101.2
Uniform-1 -57	red	41.644	0.5753	21.0391	2.4469	20.946	3.368	0.3749	9.099	0	0.097	0	99.59
Uniform-1 -58	red	41.419	1.1481	20.2936	2.2557	20.363	4.006	0.3958	9.499	0.006	0.1409	0	99.528
Uniform-1 -59	red	41.647	0.3905	20.3623	3.8887	21.373	3.379	0.3147	7.638	0.031	0.0891	0	99.113
Uniform-1 -60	red	41.397	1.0941	20.3803	2.148	20.403	3.998	0.3894	9.319	0.024	0.1332	0.018	99.302
Uniform-1 -61	red	41.767	0.7597	20.8432	2.6138	21.083	3.588	0.3945	9.152	0.05	0.1219	0	100.37
Uniform-1 -63	red	41.878	0.5646	20.9921	2.6312	21.056	3.41	0.4003	9.021	0	0.0931	0	100.05
Uniform-1 -64	red	41.971	1.4067	21.8069	0.494	22.207	2.708	0.2747	8.665	0.027	0.1343	0.011	99.705

Uniform-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Uniform-1 -65	red	42.029	0.815	21.4748	1.5439	20.891	3.602	0.4175	9.213	0.015	0.1357	0.025	100.16
Uniform-1 -66	red	41.663	0.9964	20.9724	1.8653	19.569	4.698	0.4239	9.918	0.022	0.1707	0.004	100.3
Uniform-1 -67	red	42.027	0.6986	20.8563	2.5806	20.946	3.592	0.4759	9.221	0	0.1113	0	100.51
Uniform-1 -68	red	41.873	0.491	21.2483	2.5745	21.262	3.185	0.4087	9.138	0.01	0.0836	0.029	100.3
Uniform-1 -69	red	41.178	0.4603	17.6287	7.6336	20.765	4.339	0.3763	7.815	0.045	0.0834	0	100.32
Uniform-1 -70	red	41.82	0.6297	20.9547	2.4597	21.066	3.534	0.4257	9.157	0	0.1063	0	100.15
Uniform-1 -71	red	41.82	0.99	21.0168	2.0593	20.798	3.672	0.4087	9.505	0	0.1381	0.002	100.41
Uniform-1 -72	red	41.837	1.1226	20.686	1.9373	20.815	3.773	0.3625	9.155	0	0.1272	0.007	99.822
Uniform-1 -73	red	41.37	0.9784	19.5451	3.9334	20.836	3.8	0.3493	8.85	0	0.1171	0.032	99.811
Uniform-1 -74	red	41.854	0.604	21.374	2.1921	20.708	5.138	0.311	7.958	0	0.1011	0	100.24
Uniform-1 -75	red	41.752	0.7186	20.5279	2.615	20.758	3.728	0.3807	9.024	0.007	0.1246	0	99.636
Uniform-1 -76	red	41.609	1.8677	20.886	1.0613	21.085	3.24	0.3542	9.664	0.022	0.182	0	99.972
Uniform-1 -77	red	41.681	0.9565	21.08	1.9743	20.784	3.69	0.3793	9.243	0.025	0.1299	0.025	99.968
Uniform-1 -78	red	41.937	0.3952	19.6532	4.6227	21.12	3.886	0.3932	7.798	0	0.0931	0.013	99.911
Uniform-1 -79	red	41.75	1.0596	20.8688	1.9344	20.705	3.662	0.3554	9.503	0	0.1339	0.003	99.974
Uniform-1 -80	red	41.428	1.1114	20.631	1.7227	19.431	4.873	0.4643	10.27	0	0.1659	0	100.1
Uniform-1 -81	red	41.794	0.9423	21.2482	1.7142	20.534	3.812	0.4158	9.409	0	0.1348	0	100
Uniform-1 -82	red	41.586	0.6903	20.7791	2.5907	20.839	3.694	0.3918	9.167	1E-04	0.1273	0.006	99.871
Uniform-1 -83	red	37.3	0	21.482	0.0097	4.635	2.025	1.6526	33.42	0	0.0084	0.02	100.55
Uniform-1 -84	red	41.602	0.7958	20.4614	3.0721	20.832	3.542	0.3858	9.228	0	0.1049	0	100.02
Uniform-1 -85	red	41.854	0.4984	20.9539	2.5155	21.181	3.324	0.3331	8.912	0.029	0.0958	0.019	99.716
Uniform-1 -86	red	41.794	0.9836	21.0716	1.9494	20.598	3.783	0.3736	9.38	0.065	0.1239	0.021	100.14
Uniform-1 -87	red	41.666	0.9595	21.0699	1.7284	20.619	3.857	0.357	9.337	0	0.1256	0	99.719
Uniform-1 -88	red	42.007	0.533	20.9644	2.4188	21.15	3.362	0.3133	9.183	0	0.093	0	100.02
Uniform-1 -89	red	41.639	0.7792	20.8074	2.4938	20.868	3.598	0.4113	9.465	0	0.1216	0	100.18
Uniform-1 -90	red	41.376	1.1186	20.4079	2.1327	20.321	3.869	0.4415	9.205	0	0.1516	0	99.023
Uniform-1 -91	red	41.385	0.484	18.1115	6.9194	20.784	4.159	0.3937	8.14	0	0.1094	0	100.49
Uniform-1 -92	red	41.409	0.3624	19.7089	4.5962	19.795	5.363	0.3486	7.942	0.031	0.022	0.018	99.595
Uniform-1 -93	red	40.837	0.3484	17.5614	7.0753	19.047	4.628	0.3954	9.198	0.031	0.113	0.017	99.251
Uniform-1 -94	red	41.693	1.0171	20.9103	1.9502	20.758	3.706	0.4075	9.18	0	0.1168	0.013	99.753
Uniform-1 -95	red	41.755	0.6625	21.0615	2.4032	21.005	3.526	0.4129	9.192	0	0.1212	0	100.14
Uniform-1 -96	red	41.706	0.6193	20.7962	2.5191	20.815	3.544	0.3822	8.831	0	0.1167	0	99.33
Uniform-1 -97	red	41.645	0.6751	20.8326	2.5018	20.891	3.479	0.4102	9.021	0.028	0.1164	0	99.6
Uniform-1 -98	red	41.715	1.6408	21.3438	0.765	21.534	2.99	0.3431	9.52	0	0.1372	0.008	99.997
Uniform-1 -99	red	41.772	0.7981	21.3034	2.046	20.808	3.559	0.3345	9.039	0	0.113	0	99.773
Uniform-1 -100	red	40.905	0.1199	17.2641	8.0178	18.671	6.627	0.3931	7.516	0.013	0.0789	0	99.606
Uniform-1 -101	pink	37.292	0	21.3678	0.0099	4.6534	1.843	1.1933	34.33	0	0.0109	0	100.7
Uniform-1 -102	pink	37.616	0.016	21.3927	0	5.2755	1.866	1.2556	32.88	0.042	0.0096	0	100.35
Uniform-1 -103	pink	37.645	0.0391	21.5969	0.0224	5.4725	1.995	0.8017	33.26	0.04	0	0	100.87
Uniform-1 -104	pink	37.265	0.0049	21.3355	0.0154	4.2557	1.976	1.4924	34.29	0	0.0015	0.067	100.7
Uniform-1 -105	pink	36.977	0.0137	21.2187	0.0158	4.047	1.583	1.8343	34.32	0	0.0077	0.033	100.05
Uniform-1 -106	pink	37.155	0.0097	21.1387	0.0317	4.0546	1.764	1.7937	33.78	0.026	0.0176	0	99.768
Uniform-1 -108	pink	37.162	0.0366	21.3518	0	3.8911	1.403	2.3814	34.57	0	0.0028	0	100.8
Uniform-1 -109	pink	37.141	0.027	21.3645	0.0357	4.0573	1.544	3.1938	33.04	0	0.0092	0	100.41
Uniform-1 -110	pink	37.239	0.0178	21.3499	0.0024	5.1268	1.561	1.0644	33.66	0.023	0.0099	0.035	100.09
Uniform-1 -111	pink	36.971	0.0221	21.277	0	4.0987	1.301	2.593	34.22	0.03	0	0	100.51
Uniform-1 -112	pink	37.186	0.0053	21.1955	0.0412	4.3846	1.586	1.2777	34.71	0.059	0.008	0	100.45
Uniform-1 -113	pink	37.062	0.0283	21.4146	0.0029	4.1016	1.605	1.0885	34.66	0.006	0.0015	0.014	99.987
Uniform-1 -114	pink	37.421	0.0337	21.3143	0.0523	5.2175	1.3	1.4639	33.77	0.007	0.0079	0.003	100.59
Uniform-1 -115	pink	37.26	0.0062	21.2709	0.0001	4.2348	1.588	1.1553	35.08	0.073	0.0067	0	100.68
Uniform-1 -116	pink	37.121	0.0279	21.2328	0.0117	4.9791	1.623	1.7071	33.38	0	0.0114	0	100.09
Uniform-1 -117	pink	37.335	0.0115	21.2482	0.0401	4.2011	2.155	2.2962	33.07	0.014	0.0111	0.041	100.43
Uniform-1 -118	pink	37.354	0	21.3211	0.0177	4.5193	1.585	3.0499	32.44	0	0.0163	0.026	100.33
Uniform-1 -119	pink	37.122	0	21.2765	0.0286	4.1658	1.336	2.1038	34.49	0.023	0.0142	0	100.56
Uniform-1 -120	pink	37.528	0.0111	21.4067	0.0141	5.1013	2.23	1.4231	32.67	0.047	0	0	100.43
Uniform-1 -121	pink	36.963	0.0322	21.2252	0	3.6618	1.395	3.7938	33.44	0	0.003	0	100.52
Uniform-1 -122	pink	37.415	0.0164	21.4452	0.0535	5.0524	1.767	2.1768	32.34	0.072	0.0037	3E-04	100.34
Uniform-1 -123	pink	37.159	0.0093	21.245	0.0162	4.3803	1.261	3.2843	33.39	0	0.0149	0	100.76
Uniform-1 -124	pink	37.097	0.0009	21.1791	0.0094	4.4594	1.58	1.4626	34.41	0	0.0087	0.017	100.23

Uniform-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Uniform-1 -125	pink	37.064	0.0155	21.2716	0.009	4.0771	1.573	2.8202	33.16	0	0	0	99.991
Uniform-1 -126	pink	37.162	0	21.1417	0.0148	4.061	1.51	2.615	33.82	0.053	0.0065	0	100.38
Uniform-1 -127	pink	37.369	0.02	21.3697	0	5.0826	1.699	1.131	33.62	0	0	0.027	100.32
Uniform-1 -128	pink	37.274	0.0204	21.3636	0.0159	4.483	1.765	1.1149	34.3	0	0	0	100.34
Uniform-1 -129	pink	37.056	0.015	21.2016	0.0282	3.9716	1.535	1.79	34.64	0.053	0.002	0	100.29
Uniform-1 -130	pink	37.402	0.0165	21.532	0.0048	5.8202	1.644	1.3466	32.19	0	0	0	99.959
Uniform-1 -131	pink	37.154	0.0133	21.3822	0.0131	4.5954	1.604	2.3322	32.94	0	0.004	0.033	100.07
Uniform-1 -133	pink	37.221	0.0142	21.3511	0.0771	4.2163	1.689	1.0478	34.63	0.043	0.0114	0.013	100.31
Uniform-1 -134	pink	37.271	0.0261	21.3354	0.046	4.2795	1.381	2.8667	33.14	0.082	0.0077	0.011	100.45
Uniform-1 -135	pink	37.456	0.0031	21.4959	0.0094	4.6909	1.628	1.7813	33.44	0.009	0.0079	0.025	100.55
Uniform-1 -136	pink	37.625	0.0365	21.561	0.0062	4.7261	2.484	1.0523	33.61	0	0.002	0	101.1
Uniform-1 -137	pink	37.324	0.0137	21.2965	0.0578	4.7968	1.258	2.3646	33.32	0	0.002	0	100.44
Uniform-1 -138	pink	37.213	0	21.3107	0.0265	4.476	1.437	2.6331	32.97	0.032	0.0015	0.004	100.1
Uniform-1 -139	pink	36.885	0.0123	21.0405	0.0223	3.3672	1.526	6.2116	31.13	0.056	0.008	0.017	100.28
Uniform-1 -140	pink	37.33	0.0249	21.3665	0.034	5.1495	1.552	1.7571	32.38	0	0	0.046	99.642
Uniform-1 -141	pink	37.089	0.0266	21.2465	0.0386	4.3367	1.851	1.6734	33.79	0	0.0005	0	100.05
Uniform-1 -142	pink	37.181	0.0075	21.4217	0.0195	4.4698	1.741	1.1921	34.29	0.036	0	0.018	100.38
Uniform-1 -143	pink	36.976	0.0009	21.421	0	4.9025	1.559	1.275	34.14	0.007	0	0	100.28
Uniform-1 -144	pink	36.984	0	21.3463	0.0159	4.5827	1.513	2.2265	33.37	0	0.0007	0.016	100.06
Uniform-1 -145	pink	37.033	0.0142	21.1704	0.0209	4.4504	1.45	2.0949	33.56	0	0.0045	0	99.798
Uniform-1 -146	pink	37.219	0.0004	21.2831	0.0283	4.6059	1.458	1.4389	34.05	0.007	0.0003	0.007	100.1
Uniform-1 -147	pink	37.484	0.0222	21.3742	0.0213	4.5208	1.489	1.1556	34.3	0	0	0.025	100.39
Uniform-1 -148	pink	37.251	0.0013	21.3141	0.0238	4.3485	1.928	1.9174	33.64	0.014	0.0027	0.028	100.47
Uniform-1 -149	pink	37.115	0	21.1177	0.021	3.9897	1.564	2.499	33.55	0.004	0	0.026	99.886
Uniform-1 -150	pink	36.997	0.0133	21.0331	0.046	3.951	1.895	1.393	34.74	0	0.01	0.033	100.11
Uniform-1 -151	orange	42.403	0.3308	22.2224	1.3259	21.316	3.948	0.3312	8.212	0	0.1252	0	100.21
Uniform-1 -152	orange	41.574	1.0526	20.9059	2.104	20.763	3.732	0.4664	9.261	0	0.1357	0	99.995
Uniform-1 -154	orange	41.742	1.054	20.7777	1.9062	20.599	3.671	0.3471	9.316	0.035	0.1281	0.02	99.596
Uniform-1 -155	orange	41.802	0.976	20.8149	1.9987	20.823	3.713	0.4412	9.341	0	0.1403	0	100.05
Uniform-1 -156	orange	41.579	0.991	20.8345	2.0118	20.569	3.877	0.4173	9.398	0	0.1321	0	99.809
Uniform-1 -157	orange	41.786	0.8334	21.3743	1.7809	21.066	3.499	0.36	9.103	0	0.1176	0.044	99.964
Uniform-1 -160	orange	41.721	1.0457	20.8902	2.1039	20.844	3.648	0.4003	9.515	0.021	0.1189	0.021	100.33
Uniform-1 -162	dk purple	41.496	0.0234	21.0414	3.6715	19.448	4.737	0.647	8.491	0.037	0.0236	0	99.616
Uniform-1 -163	dk purple	41.266	0.3227	18.7575	5.8453	19.905	5.381	0.3729	7.918	0	0.0993	0	99.868
Uniform-1 -164	dk purple	37.816	0.0147	21.641	0.0305	5.7324	2.256	1.2885	32.1	0.001	0.0068	0	100.89
Uniform-1 -165	dk purple	37.83	0.0307	21.5677	0.0011	6.0457	1.318	1.443	32.29	0	0.0129	0.038	100.57
Uniform-1 -166	dk purple	37.35	0	21.4016	0	4.656	1.813	1.4702	34.17	0	0.0067	0	100.87
Uniform-1 -167	dk purple	41.16	0.3381	18.1082	6.8349	18.8	5.386	0.3385	8.92	0.032	0.1024	0	100.02
Uniform-1 -168	dk purple	41.622	0.6487	20.3349	3.2852	20.894	3.609	0.3777	8.822	0.06	0.0985	0.008	99.76
Uniform-1 -169	dk purple	41.236	0.2375	17.445	7.5131	19.565	5.376	0.4382	7.681	0	0.0939	0.004	99.589
Uniform-1 -170	dk purple	37.179	0.0093	21.3219	0.0219	3.9634	1.428	4.2372	32.76	0.011	0.0008	0.027	100.96
Uniform-1 -171	dk purple	41.406	0.2779	18.5884	6.1173	20.06	5.233	0.3981	7.717	0.013	0.0518	0	99.863
Uniform-1 -172	dk purple	41.745	0.3355	20.1113	4.4946	20.384	4.917	0.3666	7.737	0	0.0621	0	100.15
Uniform-1 -173	dk purple	41.332	0.4444	17.5852	7.4734	20.551	4.292	0.372	8.331	0.016	0.126	0.023	100.55
Uniform-1 -174	purple	41.163	0.1375	17.2319	8.04	19.504	5.751	0.3945	7.755	0	0.0488	0	100.02
Uniform-1 -175	purple	41.643	0.1165	21.0655	3.4737	19.055	5.274	0.4787	8.933	0.028	0.0317	0	100.1
Uniform-1 -176	purple	37.313	0.0217	21.3191	0.0343	4.6375	1.344	2.0406	33.75	0	0.0101	0	100.47
Uniform-1 -177	purple	37.06	0.0147	21.4146	0.0206	5.0783	2.049	1.3488	33.2	0	0.0071	0	100.2
Uniform-1 -178	purple	37.706	0.0089	21.6061	0.014	6.0089	1.602	1.9782	31.77	0	0.0139	0	100.71
Uniform-1 -179	purple	37.363	0	21.5938	0.047	5.1958	1.54	1.9251	33.02	0.01	0.0005	0	100.69
Uniform-1 -180	purple	41.455	0.1048	21.0829	3.4382	19.016	5.296	0.4872	9.162	0	0.0268	0	100.07
Uniform-1 -182	purple	37.113	0	21.3905	0.0145	4.7236	1.547	2.3229	33.04	0.046	0.0131	0	100.21
Uniform-1 -183	purple	41.725	1.0563	20.9367	2.1337	20.681	3.744	0.4258	9.263	0.032	0.1295	0	100.13
Uniform-1 -184	purple	37.293	0.0151	21.2567	0.0287	4.5044	1.859	1.7048	33.99	0.007	0.0121	6E-04	100.67
Uniform-1 -185	purple	37.453	0	21.5272	0.0224	4.7617	1.624	1.6298	33.65	0.032	0	0.012	100.71
Uniform-1 -187	purple	37.175	0.0128	21.3665	0	4.1356	1.89	2.1213	34.11	0	0	0	100.81
Uniform-1 -189	purple	37.045	0.0151	21.4396	0.0154	4.9076	1.329	2.3564	32.9	0.013	0.0077	0.018	100.05
Uniform-1 -190	purple	36.728	0	21.1016	0.0272	4.2301	1.186	3.2238	33.46	0	0	0	99.962
Uniform-1 -192	purple	42.256	0.2343	21.1539	2.8498	21.428	3.914	0.3153	7.709	0.059	0.0719	0.02	100.01

Uniform-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Uniform-1 -193	purple	37.499	0	21.5094	0.0307	4.9151	1.654	1.8292	33.08	0.01	0.0037	0	100.54
Uniform-1 -194	purple	41.361	0.1554	17.5973	7.4239	20.211	5.14	0.3587	7.595	0.013	0.058	0	99.914
Uniform-1 -195	purple	36.92	0	21.1283	0.0167	3.6111	1.307	2.389	34.39	0.019	0.0092	0	99.794
Uniform-1 -197	purple	36.993	0.0088	21.1691	0.0071	3.7121	1.74	2.0121	34.77	0.022	0.0117	0	100.45
Uniform-1 -198	purple	37.095	0	21.424	0.0158	4.3435	1.697	2.0829	33.7	0	0.0042	0	100.37
Uniform-1 -201	purple	37.517	0	21.3728	0.0278	5.1091	1.486	1.4318	33.93	0.023	0.0111	0.029	100.94
Uniform-1 -203	purple	37.357	0.0009	21.4238	0.0487	4.954	1.252	2.109	33.53	0.02	0.0146	0	100.71
Uniform-1 -206	purple	37.031	0.0318	21.1484	0.0112	4.1717	1.298	3.4215	33.12	0	0.0104	0.007	100.25
Uniform-1 -207	purple	37.522	0.0106	21.5014	0.0075	4.3549	1.913	1.2769	34.42	0	0.0052	0.002	101.01
Uniform-1 -208	purple	41.422	0.9428	21.1712	1.7516	20.673	3.852	0.3348	9.422	0	0.1266	0	99.695
Uniform-1 -209	purple	37.389	0.0142	21.5511	0.0201	5.1409	1.546	1.4743	33.18	0	0.003	9E-04	100.31
Uniform-1 -210	purple	37.357	0	21.4485	0.0196	4.0141	2.165	2.2744	33.28	0.016	0.0047	0	100.58
Uniform-1 -213	purple	37.559	0	21.4604	0.0167	5.4948	1.274	1.8602	32.56	0	0.0113	0	100.23
Uniform-1 -214	purple	37.344	0.038	21.1034	0.0377	4.1132	1.529	3.6722	32.67	0.027	0.0005	0	100.53
Uniform-1 -215	purple	37.31	0.0124	21.1327	0.0126	3.9509	1.198	2.826	34.03	0.003	0.0105	0	100.48
Uniform-1 -218	purple	37.774	0	21.2513	0	5.5231	1.372	0.9619	33.9	0	0.0005	0.045	100.83
Uniform-1 -219	purple	37.002	0	21.1984	0.0264	3.6354	1.826	2.3227	34.56	0	0.0033	0.002	100.58
Uniform-1 -220	purple	37.434	0	21.5392	0.0325	5.41	1.254	1.0662	33.69	0.014	0.0066	0	100.44
Uniform-1 -221	purple	37.499	0	21.2942	0.0135	4.1918	1.706	1.7831	34.27	0.013	0	0	100.77
Uniform-1 -222	purple	37.1	0.0243	21.2802	0.0125	4.0544	1.676	2.7886	33.97	0.017	0	0	100.92
Uniform-1 -223	purple	37.194	0.0049	21.2729	0.0149	4.4245	1.415	1.9056	34.19	0.013	0.0229	0	100.46
Uniform-1 -225	purple	41.948	0.0005	21.5211	3.2208	20.104	4.642	0.5693	8.359	0.015	0.0142	0	100.39
Uniform-1 -227	purple	37.419	0	21.3563	0.0087	4.8058	1.812	1.3919	33.81	0	0.0067	2E-04	100.61
Uniform-1 -228	purple	36.891	0.0106	21.2751	0.0226	4.0138	1.467	1.1033	35.35	0.006	0.013	0	100.15
Uniform-1 -229	purple	37.138	0.0137	21.4905	0.0437	4.1589	1.491	3.7092	32.4	0.004	0.0035	0	100.45
Uniform-1 -230	purple	36.999	0.0302	21.2786	0.0204	4.4661	2.009	1.0737	33.63	0	0.001	0	99.511
Uniform-1 -232	purple	41.64	1.2245	20.7167	2.2536	20.889	3.608	0.3655	9.406	0.015	0.1225	0.003	100.24
Uniform-1 -233	red	42.082	1.7511	21.6502	0.7736	22.124	2.734	0.348	9.08	0.044	0.1468	0	100.73
Uniform-1 -234	red	41.633	0.92	21.2378	1.6629	20.796	3.678	0.3954	9.29	0	0.1268	0	99.74
Uniform-1 -235	red	41.818	0.7275	20.5191	2.5021	20.864	3.569	0.3964	9.364	0	0.1004	0	99.861
Uniform-1 -236	red	41.786	0.5314	21.9174	1.3675	19.383	4.376	0.4904	10.31	0.063	0.1109	0	100.34

Uniform-1 Chromite

Sample	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Uniform-1 -1	0.03	0.04	0	0.028	10.501	56.914	0.203	11.14	0.06	0.3852	20.69	0.058	0.201	100.25	4.596	16.55	100.71
Uniform-1 -2	0.044	0.05	0.0038	0.011	9.603	56.037	0.407	10	0.04	0.3965	22.457	0.063	0.111	99.224	4.668	18.26	99.691
Uniform-1 -3	0.019	0.15	0	0.020	10.213	55.174	0.293	10.31	0.052	0.5644	23.235	0.16	0.251	100.44	6.068	17.78	101.05
Uniform-1 -4	0.002	0.14	0.0318	0.000	9.017	54.465	0.446	9.996	0	0.5333	24.907	0.141	0.182	99.866	7.335	18.31	100.6
Uniform-1 -5	0.005	0	0.0255	0.015	10.497	55.336	0.46	10.11	0.059	0.3042	23.254	0.115	0.143	100.32	5.176	18.6	100.84
Uniform-1 -6	0.023	0.06	0.0178	0.027	9.415	56.616	0.217	10.59	0.048	0.3328	22.189	0.064	0.161	99.758	5.516	17.23	100.31
Uniform-1 -7	0.026	0.09	0	0.035	10.362	54.848	0.367	10.01	0.037	0.2745	23.426	0.035	0.09	99.601	5.326	18.63	100.13
Uniform-1 -8	0.055	2.09	0.0343	0.000	6.820	55.785	0.321	11.1	0.037	0.3103	23.037	0.167	0.182	99.932	5.541	18.05	100.49
Uniform-1 -9	0.009	0.06	0	0.000	11.138	53.790	0.442	9.212	0.071	0.4573	24.065	0.066	0.201	99.507	4.931	19.63	100
Uniform-1 -10	0.012	0	0.0077	0.029	10.742	57.047	0.312	11.19	0.028	0.3974	19.935	0.07	0.146	99.912	3.730	16.58	100.29
Uniform-1 -11	0.02	0.31	0	0.000	10.238	50.777	0.143	8.427	0.022	0.4466	28.881	0.061	0.174	99.5	9.168	20.63	100.42
Uniform-1 -12	0.028	0.09	0	0.030	10.060	55.603	0.409	9.397	0.027	0.3408	23.293	0.04	0.172	99.486	4.336	19.39	99.92
Uniform-1 -13	0.03	0.09	0.0025	0.000	8.665	53.470	0.36	8.574	0.02	0.3027	27.283	0.083	0.311	99.191	7.881	20.19	99.98
Uniform-1 -14	0.002	0.01	0.0281	0.053	10.214	55.839	0.325	10.31	0.034	0.3522	22.023	0.049	0.119	99.361	4.690	17.8	99.831
Uniform-1 -15	0.012	1.43	0	0.007	2.700	52.645	0.589	7.867	0.054	0.4455	32.991	0.124	0.227	99.088	12.473	21.77	100.34
Uniform-1 -16	0.037	0.02	0	0.008	10.889	54.441	0.418	10.47	0.073	0.4058	22.542	0.001	0.249	99.553	5.348	17.73	100.09
Uniform-1 -17	0.021	0.01	0	0.063	19.963	48.015	0.206	11.59	0.027	0.1596	19.854	0.053	0.22	100.18	2.579	17.53	100.44
Uniform-1 -18	0.01	0.06	0.0317	0.041	7.937	54.995	0.316	9.415	0.054	0.4694	25.866	0.094	0.045	99.333	7.867	18.79	100.12
Uniform-1 -19	0.067	1.14	0	0.000	4.853	61.893	0.289	11.3	0.023	0.2109	20.07	0.125	0.076	100.05	3.675	16.76	100.42
Uniform-1 -20	0.03	0.44	0.0228	0.000	7.346	52.669	0.366	8.091	0.037	0.42	29.867	0.154	0.302	99.74	9.772	21.07	100.72
Uniform-1 -21	0.014	0.12	0	0.000	11.058	55.675	0.372	10.94	0.016	0.4383	21.238	0.115	0.159	100.15	4.486	17.2	100.6
Uniform-1 -22	0	0.02	0.0051	0.000	10.653	54.501	0.463	9.617	0.025	0.3947	23.863	0.124	0.304	99.974	5.349	19.05	100.51
Uniform-1 -23	0.008	0.08	0	0.065	9.491	54.683	0.469	9.72	0.008	0.3168	25.036	0.108	0.322	100.31	6.669	19.03	100.98
Uniform-1 -24	0.023	0.35	0	0.000	9.483	51.441	0.362	8.955	0	0.4542	28.885	0.111	0.116	100.18	9.508	20.33	101.13
Uniform-1 -25	0	2.24	0.0212	0.000	0.427	53.410	0.614	6.949	0.062	0.5713	34.171	0.198	0.016	98.685	11.926	23.44	99.879
Uniform-1 -26	0	0.17	0	0.000	11.117	54.457	0.415	10.83	0.025	0.373	21.63	0.119	0.119	99.257	4.842	17.27	99.742
Uniform-1 -27	0.017	0.39	0.0416	0.013	5.296	56.311	0.293	9.014	0.047	0.5367	27.554	0.052	0.129	99.696	9.177	19.3	100.62
Uniform-1 -28	0.007	0	0.056	0.000	9.449	54.842	0.361	9.223	0.084	0.2912	25.236	0.09	0.19	99.83	6.393	19.48	100.47
Uniform-1 -30	0.012	0.34	0	0.000	8.555	52.064	0.284	8.646	0.025	0.4545	28.63	0.109	0.25	99.373	9.474	20.11	100.32
Uniform-1 -31	0.026	0.04	0.0191	0.000	9.998	56.306	0.378	10.52	0	0.3754	21.609	0.089	0.175	99.535	4.522	17.54	99.988
Uniform-1 -33	0.033	0.1	0	0.015	10.040	54.676	0.304	10.17	0.017	0.3511	23.871	0.056	0.27	99.908	6.396	18.12	100.55
Uniform-1 -34	0.005	0.17	0	0.004	11.830	53.926	0.384	10.6	0.006	0.4934	22.548	0.134	0.138	100.24	5.166	17.9	100.76
Uniform-1 -35	0.048	0.02	0	0.000	9.129	55.119	0.199	9.725	0.017	0.6076	24.586	0.038	0.179	99.665	7.086	18.21	100.38
Uniform-1 -36	0.065	0.04	0.0463	0.000	13.108	53.562	0.343	11.25	0.054	0.2959	21.409	0.087	0.181	100.45	4.636	17.24	100.91
Uniform-1 -37	0.01	0.03	0	0.000	26.269	41.160	0.243	14.56	0.043	0.2212	17.807	0.124	0.303	100.77	4.230	14	101.2
Uniform-1 -38	0.003	0.96	0	0.000	7.401	50.725	0.237	8.478	0	0.4118	30.803	0.113	0.242	99.373	11.167	20.76	100.49
Uniform-1 -40	0.028	0	0	0.000	9.760	55.155	0.376	9.701	0.027	0.2227	23.648	0.105	0.225	99.246	5.514	18.69	99.798
Uniform-1 -41	0.018	0.05	0	0.000	10.142	54.225	0.363	10.44	0.039	0.3631	23.794	0.082	0.183	99.7	6.772	17.7	100.38
Uniform-1 -42	0.026	0.23	0.0115	0.051	9.595	54.243	0.342	9.033	0.039	0.3767	25.282	0.096	0.132	99.46	6.009	19.88	100.06
Uniform-1 -43	0.012	2.25	0	0.000	1.085	56.006	0.395	7.774	0.021	0.4151	31.344	0.186	0.159	99.644	10.051	22.3	100.65
Uniform-1 -45	0.031	2.42	0	0.000	0.461	55.663	0.699	7.253	0.019	0.5181	31.706	0.201	0.12	99.088	9.255	23.38	100.02
Uniform-1 -46	0.014	0.01	0.0231	0.026	11.182	56.045	0.41	11.26	0.018	0.2268	20.279	0.061	0.207	99.758	3.852	16.81	100.14
Uniform-1 -47	0.015	0.3	0	0.000	8.171	53.541	0.504	9.954	0.008	0.2711	26.31	0.169	0.15	99.396	8.584	18.59	100.26
Uniform-1 -48	0.058	0.87	0	0.009	5.241	53.414	0.367	8.162	0.014	0.2143	31.313	0.081	0.073	99.812	10.800	21.59	100.89
Uniform-1 -50	0.045	0.09	0	0.040	11.516	54.534	0.345	10.99	0.046	0.3557	21.276	0.105	0.159	99.495	4.712	17.04	99.967
Uniform-1 -51	0.004	0.1	0	0.000	10.575	55.343	0.25	10.45	0.046	0.0997	23.128	0.094	0.18	100.27	5.689	18.01	100.84
Uniform-1 -52	0.024	0.02	0	0.079	9.450	55.203	0.289	9.693	0.019	0.2892	23.937	0.089	0.111	99.197	5.915	18.61	99.789
Uniform-1 -53	0.048	0.38	0	0.000	7.233	59.375	0.385	10.94	0.037	0.2157	21.329	0.108	0.203	100.25	4.708	17.09	100.72
Uniform-1 -54	0.007	0.13	0	0.000	6.869	57.749	0.217	9.185	0.093	0.4556	24.286	0.13	0.234	99.353	6.360	18.56	99.99
Uniform-1 -55	0.012	0.1	0.0128	0.000	10.391	54.617	0.348	9.503	0.056	0.3841	23.809	0.08	0.095	99.404	5.215	19.12	99.926
Uniform-1 -56	0.028	0.01	0	0.000	10.050	54.535	0.323	10.42	0.06	0.3398	23.308	0.08	0.138	99.284	6.420	17.53	99.927
Uniform-1 -57	0.01	0.33	0	0.069	9.520	53.559	0.292	9.675	0.017	0.4188	25.681	0.047	0.164	99.783	7.430	19	100.53
Uniform-1 -58	0.004	0.76	0.0127	0.011	7.935	55.550	0.302	9.656	0.036	0.4464	25.047	0.083	0.126	99.966	6.562	19.14	100.62
Uniform-1 -59	0.016	0	0	0.000	10.291	55.405	0.415	11.09	0.021	0.2638	21.936	0.119	0.225	99.785	5.686	16.82	100.35
Uniform-1 -60	0.019	0.08	0	0.000	11.015	55.759	0.437	11.43	0.028	0.2887	20.689	0.173	0.058	99.976	4.508	16.63	100.43
Uniform-1 -61	0.011	0.1	0	0.000	10.325	55.051	0.312	10.38	0	0.2628	23.467	0.091	0.164	100.17	6.003	18.07	100.77
Uniform-1 -62	0.013	0	0.004	0.000	29.574	39.668	0.226	15.06	0.002	0.383	14.317	0.071	0.215	99.537	1.152	13.28	99.652
Uniform-1 -63	0.048	0.15	0	0.000	10.929	54.555	0.329	10.57	0.002	0.1414	22.772	0.096	0.09	99.686	5.299	18	100.22
Uniform-1 -64	0.005	2.25	0	0.000	2.820	50.038	0.419	7.662	1E-04	0.4749	35.173	0.15	0.099	99.094	13.838	22.72	100.48

Uniform-1 Chromite

Sample	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Uniform-1 -65	0.026	0.39	0.0127	0.000	6.555	55.216	0.255	8.713	0.063	0.4497	27.543	0.106	0.192	99.521	8.645	19.76	100.39
Uniform-1 -66	0.104	1.51	0	0.021	17.536	46.025	0.151	13.55	0.014	0.113	20.327	0.27	0.091	99.708	5.495	15.38	100.26
Uniform-1 -67	0.027	0.46	0	0.000	7.000	52.032	0.299	8.5	0.011	0.666	29.912	0.14	0.208	99.251	10.985	20.03	100.35
Uniform-1 -68	0.014	0.04	0.0013	0.020	10.591	53.785	0.226	9.385	0.015	0.5068	24.777	0.073	0.211	99.641	6.413	19.01	100.28
Uniform-1 -69	0.054	0.06	0	0.033	11.647	55.350	0.362	11.18	0.004	0.4067	21.083	0.108	0.194	100.48	4.478	17.05	100.93
Uniform-1 -73	0.02	0.05	0	0.000	11.385	55.059	0.289	11	0	0.3211	21.832	0.101	0.024	100.08	5.101	17.24	100.59
Uniform-1 -74	0.021	1.07	0	0.029	5.252	52.363	0.357	8.032	0.009	0.5643	31.507	0.193	0.11	99.504	11.298	21.34	100.64
Uniform-1 -75	0.021	0.2	0.0026	0.060	11.955	50.991	0.313	10.37	0.032	0.2008	24.716	0.089	0.231	99.181	7.307	18.14	99.913
Uniform-1 -78	0.005	0.76	0	0.028	1.278	58.672	0.487	7.23	0.021	0.5707	29.798	0.098	0.248	99.194	9.045	21.66	100.1
Uniform-1 -80	0.009	0.05	0.0102	0.000	10.584	53.880	0.449	10.36	0.017	0.3821	23.653	0.103	0.236	99.735	6.318	17.97	100.37
Uniform-1 -81	0.013	0.03	0	0.020	9.980	55.186	0.275	10.32	0.003	0.4873	23.178	0.085	0.193	99.775	6 169	17.63	100.39
Uniform-1 -82	0.022	3.02	0.0062	0.000	0.537	53.328	0.655	7.661	0.028	0.4255	33.574	0.242	0.13	99.626	11.230	23.47	100.75
Uniform-1 -83	0.026	0.2	0.0238	0.000	2.893	55.592	0.387	6.447	0.018	0.4768	32.403	0.131	0.034	98.629	10.895	22.6	99.721
Uniform-1 -84	0.019	0.12	0	0.000	10.881	54.911	0.321	11.46	0.048	0.5353	21.163	0.094	0.069	99.624	5.601	16.12	100.19
Uniform-1 -85	0.099	1.76	0	0.000	14.832	47.690	0.178	13.11	0.035	0.1889	21.078	0.184	0.099	99.251	5.960	15.72	99.848

Uniform-1 Ilmenite

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
Uniform-1 -1	core	0.0184	52.291	0.055	0.0601	0.1226	1.777	0	10.08	0	0.3332	35.066	0.018	0	99.815	6.925092	28.84	100.51	57.725	35.990	6.285	100
Uniform-1 -2	core	0.0319	52.139	0.056	0.0071	0.168	1.9	0.2	10.74	0.004	0.2883	33.453	0.108	0	99.096	6.322529	27.76	99.73	55.802	38.476	5.723	100
Uniform-1 -3	core	0	48.92	0.107	0	0.1164	1.417	0.1	9.697	0.003	0.2455	38.625	0.061	0.048	99.339	13.32807	26.63	100.67	53.362	34.623	12.015	100
Uniform-1 -4	core	0.0134	51.759	0.091	0.0381	0.1211	1.678	0.025	10.33	0.015	0.3196	34.724	0.079	0	99.191	7.583623	27.9	99.951	56.084	37.027	6.889	100
Uniform-1 -5	core	0.0051	51.312	0.086	0.0084	0.0372	1.51	0.366	9.972	0.012	0.27	35.964	0.047	0	99.59	8.050693	28.72	100.4	57.304	35.462	7.234	100
Uniform-1 -6	core	0.0075	46.206	0.100	0.0194	0.0462	1.486	0.333	7.06	0	0.3847	42.95	0.036	0.05	98.679	15.32895	29.16	100.21	59.933	25.872	14.195	100
Uniform-1 -7	core	0.0209	43.604	0.160	0	0	1.665	0.187	5.609	2E-04	0.4677	46.285	0.026	0.021	98.046	18.99796	29.19	99.949	61.153	20.941	17.906	100
Uniform-1 -8	core	0.014	52.036	0.036	0	0.0875	1.858	0.024	10.15	0.013	0.2293	34.795	0.073	0.027	99.346	7.051363	28.45	100.05	57.223	36.396	6.381	100
Uniform-1 -9	core	0.0237	44.431	0.203	0	0	1.833	0.522	6.128	0.01	0.3	44.871	0.038	0.008	98.368	16.8094	29.75	100.05	61.677	22.642	15.681	100
Uniform-1 -10	core	0.0208	51.636	0.073	0	0.0938	1.669	0.034	10.06	0.01	0.3817	35.019	0.129	0.011	99.134	7.650204	28.14	99.901	56.839	36.208	6.953	100
Uniform-1 -11	core	0.0181	47.785	0.163	0.0246	0.0483	1.56	0.186	8.165	0.049	0.1881	40.431	0.031	0.106	98.754	13.20272	28.55	100.08	58.195	29.675	12.130	100
Uniform-1 -12	core	0.0153	51.493	0.084	0.0071	0.1655	1.797	0.506	10.49	0	0.2349	34.308	0.063	0.016	99.177	6.77044	28.22	99.856	56.478	37.419	6.103	100
Uniform-1 -13	core	0.0121	51.477	0.078	0	0.0528	1.65	0.14	9.851	0.003	0.3454	35.896	0.058	0.135	99.697	8.187842	28.53	100.52	57.324	35.274	7.402	100
Uniform-1 -14	core	0.0182	51.874	0.101	0.0058	0.1778	2.091	0.052	10.52	0.008	0.4006	33.999	0.103	0	99.346	7.10094	27.61	100.06	55.723	37.824	6.452	100
Uniform-1 -15	core	0.0148	51.369	0.109	0.0149	0.1612	1.839	0	10.25	0.01	0.3947	34.677	0.143	0	98.987	7.958288	27.52	99.785	55.721	37.016	7.263	100
Uniform-1 -16	core	0.0165	51.678	0.084	0	0.2434	1.701	0.139	10.19	0.02	0.4099	34.784	0.129	0.029	99.424	7.479451	28.05	100.17	56.587	36.625	6.788	100
Uniform-1 -17	core	0.0164	51.64	0.081	0.0149	0.0972	1.693	0.02	10.22	0.045	0.3263	35.084	0.035	0.053	99.326	7.981473	27.9	100.13	56.120	36.546	7.235	100
Uniform-1 -18	core	0.0122	52.351	0.036	0.0129	0.2361	2.447	0.13	11.22	0.062	0.1671	32.572	0.184	0.043	99.471	6.316384	26.89	100.1	54.065	40.210	5.724	100
Uniform-1 -19	core	0.0139	51.921	0.067	0.0116	0.1005	1.856	0	10.1	0.003	0.2506	34.899	0.053	0.066	99.345	7.206062	28.41	100.07	57.205	36.258	6.536	100
Uniform-1 -20	core	0.0165	43.53	0.118	0	0	1.595	0.461	5.697	0.023	0.36	46.299	0.007	0	98.105	18.70562	29.47	99.979	61.346	21.134	17.520	100
Uniform-1 -21	core	0.0188	51.485	0.025	0.0421	0.112	1.726	0.22	10.57	0.049	0.3134	34.253	0.031	0.045	98.885	7.566027	27.44	99.643	55.208	37.910	6.882	100
Uniform-1 -22	core	0.004	52.096	0.076	0.0181	0.217	1.67	0.043	10.51	0.011	0.318	34.267	0.094	0	99.327	7.128777	27.85	100.04	55.919	37.628	6.454	100
Uniform-1 -23	core	0.0062	46.074	0.149	0.0499	0.0992	1.577	0.178	7.103	0.03	0.4197	42.871	0.036	0	98.593	15.68592	28.76	100.16	59.280	26.123	14.598	100
Uniform-1 -24	core	0.0224	51.652	0.045	0.0032	0.169	1.664	0.187	10.02	0	0.3895	35.257	0.047	0	99.458	7.485994	28.52	100.21	57.327	35.901	6.772	100
Uniform-1 -25	core	0.0143	51.318	0.072	0.011	0.1023	1.785	0	10.15	0.01	0.3387	34.842	0.117	0	98.761	7.944014	27.69	99.557	56.101	36.650	7.249	100
Uniform-1 -26	core	0.016	51.336	0.092	0.0472	0.061	1.599	0.34	10.41	0.012	0.3426	34.536	0.068	0	98.863	7.412468	27.87	99.606	55.960	37.305	6.735	100
Uniform-1 -27	core	0.0189	44.208	0.160	0	0	1.787	0.288	5.678	0.012	0.2834	46.054	0.031	0.11	98.63	18.0017	29.86	100.43	62.104	21.048	16.847	100
Uniform-1 -28	core	0.0165	50.988	0.092	0	0.0568	1.572	0.293	10.02	0.022	0.2867	35.684	0	0.082	99.114	8.334792	28.18	99.949	56.605	35.864	7.531	100
Uniform-1 -29	core	0.01	50.718	0.141	0	0.058	2.158	0.124	11.43	0.023	0.3243	34.163	0.103	0	99.252	10.02485	25.14	100.26	50.264	40.719	9.017	100
Uniform-1 -30	core	0.0031	52.234	0.061	0	0.1515	1.667	0.127	10.21	0.031	0.3529	34.899	0.146	0.003	99.881	7.09855	28.51	100.59	57.144	36.455	6.401	100
Uniform-1 -31	core	0.0099	51.937	0.079	0	0.1149	1.695	0	10	0.014	0.2915	35.218	0.101	0	99.462	7.387487	28.57	100.2	57.469	35.846	6.685	100
Uniform-1 -32	core	0.0037	51.094	0.079	0.0447	0.1295	1.623	0.136	9.826	0.067	0.2515	36.035	0.138	0.106	99.533	8.702279	28.2	100.4	56.789	35.291	7.921	100
Uniform-1 -33	core	0.0308	47.994	0.107	0.0635	0.0804	1.466	0.329	8.637	0.033	0.2949	39.895	0.014	0.095	99.039	13.17304	28.04	100.36	56.751	31.195	12.054	100
Uniform-1 -34	core	0.0143	51.454	0.065	0.0155	0.0627	1.739	0.031	9.983	0	0.445	34.771	0.049	0.082	98.71	7.46199	28.06	99.457	57.008	36.158	6.834	100
Uniform-1 -35	core	0.0142	52.35	0.000	0	0.238	1.849	0.111	11.62	0	0.3305	32.411	0.002	0.021	98.943	6.886657	26.21	99.633	52.416	41.389	6.195	100
Uniform-1 -36	core	0.0162	51.58	0.063	0.0265	0.1098	1.751	0	10.11	0.009	0.2737	35.045	0.115	0.061	99.159	7.806326	28.02	99.941	56.530	36.363	7.107	100
Uniform-1 -37	core	0.0359	51.812	0.046	0	0.14	1.737	0.002	10.33	0.042	0.2544	34.932	0.124	0	99.456	7.87357	27.85	100.24	55.919	36.967	7.113	100
Uniform-1 -39	core	0.0233	51.175	0.045	0.0718	0.0996	1.557	0.245	9.884	0	0.2958	35.661	0.063	0.109	99.227	8.002504	28.46	100.03	57.228	35.473	7.299	100
Uniform-1 -40	core	0.0277	51.945	0.067	0	0.1171	1.771	0	10.03	0	0.396	34.843	0.08	0	99.274	7.082869	28.47	99.984	57.486	36.080	6.434	100
Uniform-1 -41	core	0.0254	51.965	0.086	0	0.1066	1.616	0	10.13	0.003	0.2853	35.465	0.05	0.027	99.759	7.814112	28.43	100.54	56.865	36.105	7.031	100
Uniform-1 -42	core	0.0143	44.092	0.141	0	0.0533	1.711	0.17	5.603	0	0.2626	46.336	0.022	0.089	98.495	18.44727	29.74	100.34	61.925	20.792	17.283	100
Uniform-1 -43	core	0.0294	51.368	0.057	0	0.0933	1.531	0	10.35	0	0.3816	35.033	0.072	0.04	98.957	8.537157	27.35	99.812	55.100	37.163	7.738	100
Uniform-1 -44	core	0.0108	52.073	0.029	0.0032	0.1798	1.881	0.18	10.52	0.023	0.4428	33.774	0.133	0.095	99.34	6.718492	27.73	100.01	56.025	37.865	6.110	100
Uniform-1 -45	core	0.0068	52.418	0.106	0.0388	0.1385	2.38	0.092	10.97	0	0.4275	32.642	0.075	0.05	99.347	5.908349	27.33	99.939	55.125	39.482	5.393	100
Uniform-1 -46	core	0.0424	51.551	0.097	0.0731	0.0931	1.464	0.196	10.23	0	0.2546	35.446	0.075	0	99.52	7.92724	28.31	100.31	56.437	36.394	7.169	100
Uniform-1 -47	core	0.0248	50.088	0.156	0.011	0.0772	1.358	0.27	10.91	0.01	0.094	35.603	0.103	0	98.699	10.63702	26.03	99.765	51.793	38.675	9.531	100
Uniform-1 -48	core	0.0176	48.159	0.108	0.0894	0	1.451	0.267	8.353	0	0.4208	40.727	0.054	0.047	99.693	13.56727	28.52	101.05	57.522	30.083	12.395	100
Uniform-1 -49	core	0.0279	51.312	0.047	0.0434	0.024	1.652	0.042	10.25	0	0.2986	35.199	0.07	0.034	99.002	8.387803	27.65	99.842	55.601	36.774	7.624	100
Uniform-1 -50	core	0.0027	51.909	0.104	0.0213	0.1135	1.724	0.088	10.15	0.017	0.3128	34.938	0.082	0	99.465	7.226395	28.44	100.19	57.103	36.351	6.546	100
Uniform-1 -51	core	0.0478	51.559	0.082	0.0194	0.1002	1.828	0.099	10.48	0	0.2503	34.346	0.016	0	98.829	7.34945	27.73	99.565	55.764	37.572	6.664	100
Uniform-1 -52	core	0.0215	51.881	0.088	0	0.0997	1.616	0.171	10.06	0	0.42	35.137	0.07	0.119	99.679	7.34566	28.53	100.42	57.340	36.018	6.643	100
Uniform-1 -53	core	0.0249	51.628	0.106	0.0511	0.1162	1.596	0.38	10.08	0.029	0.4119	35.128	0.101	0	99.656	7.164251	28.68	100.37	57.458	36.044	6.498	100
Uniform-1 -55	core	0.0138	50.508	0.154	0.0382	0.0696	3.574	0.132	10.49	0.007	0.3327	33.511	0.143	0.048	99.019	7.656063	26.62	99.786	54.567	38.340	7.092	100
Uniform-1 -56	core	0	51.317	0.092	0.0429	0.2437	1.758	0.054	12.02	0.038	0.1437	33.222	0.183	0.051	99.167	9.672337	24.52	100.14	48.707	42.611	8.682	100
Uniform-1 -57	core	0.0045	51.38	0.106	0.042	0.0042	1.454	0.116	9.934	0.026	0.476	35.699	0.119	0.087	99.446	8.418974	28.12	100.29	56.645	35.691	7.664	100
Uniform-1 -58	core	0.0127	51.252	0.070	0	0.1029	1.491	0.279	10.04	0.027	0.3747	35.698	0.082	0.109	99.542	8.40759	28.13	100.38	56.476	35.930	7.594	100
Uniform-1 -59	core	0.0118	52.038	0.072	0.0084	0.1123	2.023	0.021	10.47	0.004	0.3158	34.234	0.076	0.011	99.401	7.090707	27.85	100.11	56.029	37.547	6.424	100
Uniform-1 -60	core	0.0052	51.587	0.070	0.0188	0.1307	1.743	0.266	10.16	0	0.3067	35.157	0.12	0	99.565	7.544133	28.37	100.32	56.866	36.315	6.819	100
Uniform-1 -61	core	0.002	49.914	0.138	0	0.0118	1.392	0.053	8.93	0	0.3642	38.286	0.082	0.011	99.183	10.59794	28.75	100.24	58.163	32.191	9.646	100
Uniform-1 -63	core	0.0182	50.869	0.060	0.0666	0.0744	1.583	0.293	9.327	0	0.3467	36.764	0.012	0.119	99.533	8.354273	29.25	100.37	58.873	33.506	7.621	100
Uniform-1 -64	core	0.0165	43.501	0.134	0.072	0.0027	1.982	0.483	6.298	0	0.3726	45.58	0.087	0	98.528	19.08164	28.41	100.44	58.853	23.285	17.862	100
Uniform-1 -65	core	0.0024	51.494	0.060	0.0802	0.1053	1.64	0.222	10.06	0.019	0.3512	35.14	0.066	0.05	99.29	7.534071	28.36	100.05	57.015	36.106	6.879	100
Uniform-1 -66	core	0	51.366	0.034	0	0.0309	1.551	0.083	10.28	0.02	0.4994	35.357	0.061	0.087	99.37	8.878216	27.37	100.26	55.082	36.878	8.039	100
Uniform-1 -67	core	0	51.608	0.087	0.0026	0.0824	1.753	0	10.53	0.036	0.4352	34.708	0.082	0.008	99.332	8.38171	27.17	100.17	54.655	37.756	7.589	100
Uniform-1 -68	core	0.0022	50.961	0.063	0	0.1121	1.574	0.08	9.654	0.044	0.3805	35.897	0.099	0	98.867	8.46223	28.28	99.715	57.376	34.900	7.723	100
Uniform-1 -69	core	0.0285	42.697	0.227	0.0039	0.0181	2.031	0.396	5.249	0.043	0.3643	47.304	0.026	0.011	98.398	19.79818	29.49	100.38	61.753	19.590	18.657	100
Uniform-1 -70	core	0.0055	50.997	0.108	0.0162	0.1201	1.61	0.129	9.803	0.028	0.3826	35.68	0.08	0.183	99.141	8.461159	28.07	99.989	56.866	35.407	7.727	100
Uniform-1 -71	core	0.0121	51.458	0.062	0.0317	0.0901	1.584	0.257	9.741	0	0.3785	36.022	0.092	0.116	99.845	7.972968	28.85	100.64	57.906	34.868	7.226	100
Uniform-1 -72	core	0.0166	48.514	0.140	0.0175	0.0539	1.42	0.251	9.318	0	0.2617	39.382	0.099	0.048	99.521	13.5409	27.2	100.88	54.493	33.284	12.223	100
Uniform-1 -73	core	0.0118	47.637	0.112	0	0.0062	1.48	0.474	7.994	0.042	0.3818	40.55	0.005	0.066	98.76	12.86707	28.97	100.05	59.121	29.067	11.813	100
Uniform-1 -74	core	0.0313	51.682	0.127	0.044	0.1081	1.783	0.128	10.4	0	0.3594	34.816	0.152	0.048	99.678	7.804066	27.79	100.46	55.726	37.199	7.076	100
Uniform-1 -75	core	0.0173	52.27	0.036	0.0032	0.1583	1.833	0	9.948	0.063	0.3087	35.098	0.064	0.034	99.834	6.939752	28.85	100.53	58.049	35.667	6.284	100
Uniform-1 -76	core	0.0125	52.16	0.027	0	0.0975	1.809	0	10.47	0.04	0.2327	34.806	0.108	0	99.761	7.66877	27.91	100.53	55.802	37.298	6.899	100
Uniform-1 -77	core	0.0107	51.654	0.111	0.0227	0.0238	1.658	0.202	10.5	0	0.4451	35.184	0.012	0.058	99.881	8.326777	27.69	100.72	55.198	37.316	7.486	100
Uniform-1 -78	core	0.0336	51.627	0.109	0	0.1548	1.554	0.242	10.19	0.03	0.3345	35.052	0.127	0.048	99.496	7.533258	28.27	100.25	56.758	36.438	6.804	100
Uniform-1 -79	core	0.0118	51.339	0.094	0.0422	0.468	1.702	0.137	12.2	0.003	0.2859	32.543	0.117	0.069	99.014	9.146041	24.31	99.931	48.418	43.352	8.231	100
Uniform-1 -80	core	0.0068	52.175	0.056	0	0.1637	1.82	0	10.3	0.031	0.3095	34.578	0.082	0.037	99.554	7.116915	28.17	100.27	56.662	36.899	6.439	100
Uniform-1 -81	core	0.0112	51.742	0.048	0	0.0397	1.791	0.098	10.04	0.06	0.3681	34.875	0.044	0.053	99.174	7.294092	28.31	99.905	57.203	36.166	6.631	100
Uniform-1 -82	core	0.0224	51.722	0.040	0.0576	0.1183	1.7	0.092	10.14	0.005	0.2885	35.153	0.038	0	99.376	7.553307	28.36	100.13	56.857	36.283	6.860	100
Uniform-1 -83	core	0	51.193	0.087	0.0052	0.0766	1.56	0.026	9.809	0.016	0.3034	35.782	0.056	0.016	98.929	8.316857	28.3	99.763	57.140	35.300	7.560	100

Uniform-1 Ilmenite

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
Uniform-1 -84	core	0.01	51.552	0.097	0.0019	0.0814	1.705	0	10.06	0.022	0.4078	35.069	0.064	0	99.07	7.802061	28.05	99.851	56.681	36.224	7.095	100
Uniform-1 -85	core	0.0048	52.053	0.039	0.0058	0.1124	1.821	0.322	10.1	0-	0.3758	34.518	0.073	0	99.426	6.22673	28.91	100.05	58.152	36.210	5.639	100
Uniform-1 -86	core	0.0244	51.806	0.083	0.0349	0.0978	1.852	0	10.15	0	0.2792	34.919	0.136	0.011	99.396	7.450264	28.22	100.14	56.788	36.438	6.774	100
Uniform-1 -87	core	0.0234	50.567	0.135	0	0.1283	1.469	0.023	9.283	0.017	0.3453	37.488	0.028	0	99.508	9.72002	28.74	100.48	57.880	33.314	8.806	100
Uniform-1 -88	core	0.0098	51.844	0.000	0.0214	0.0954	1.813	0.195	11.41	0.054	0.3344	32.838	0.08	0	98.693	7.443171	26.14	99.438	52.451	40.812	6.737	100
Uniform-1 -89	core	0.0348	52.763	0.045	0.0868	0.2301	1.846	0	11.76	0.023	0.3468	32.055	0.185	0.003	99.374	6.638299	26.08	100.04	52.059	41.910	6.031	100
Uniform-1 -90	core	0.0059	51.707	0.048	0.0065	0.0523	1.522	0	10.26	0.033	0.3325	35.855	0.081	0.016	99.919	8.9443	27.81	100.82	55.481	36.485	8.034	100
Uniform-1 -91	core	0.0308	50.978	0.099	0	0.1179	1.607	0.198	10.06	0	0.3555	35.47	0.005	0	98.925	8.300172	28	99.757	56.376	36.105	7.518	100
Uniform-1 -92	core	0	42.09	0.241	0.0792	0.0693	1.847	0.328	5.287	0.025	0.3525	47.982	0.026	0.087	98.412	21.35301	28.77	100.55	60.113	19.722	20.164	100
Uniform-1 -93	core	0.005	48.193	0.138	0	0	1.709	0.199	7.64	0.029	0.4768	40.981	0.054	0.079	99.503	12.70281	29.55	100.78	60.455	27.853	11.692	100
Uniform-1 -94	core	0.0238	48.329	0.145	0.0401	0.0222	1.521	0.083	7.622	0.036	0.3934	40.19	0	0	98.706	11.57414	29.78	99.866	61.272	27.976	10.752	100
Uniform-1 -95	core	0.0103	52.131	0.000	0	0.138	1.794	0.094	10	0.039	0.3815	35.315	0.066	0.034	99.996	7.382819	28.67	100.74	57.550	35.783	6.667	100
Uniform-1 -96	core	0.0151	51.436	0.009	0	0.0416	1.583	0.119	9.775	0.015	0.3044	35.612	0.066	0.013	98.991	7.740983	28.65	99.766	57.815	35.157	7.029	100

Uniform-1 Olivine

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Uniform-1 -1	40.889	0.008	0.0214	0.0289	48.391	0.063	0.1601	10.49	0.306	0.0545	0	100.41
Uniform-1 -2	40.663	0.0071	0.0151	0.0161	47.891	0.043	0.1528	11.27	0.28	0.0334	0	100.37
Uniform-1 -3	40.833	0.0052	0.0396	0	48.554	0.072	0.1487	10.82	0.335	0.0687	0	100.88
Uniform-1 -4	40.991	0	0.078	0.0316	48.726	0.038	0.1148	10.52	0.384	0.0862	0.007	100.98
Uniform-1 -5	40.697	0.0254	0	0.0324	47.803	0.063	0.1288	11.22	0.348	0.0384	0.004	100.36
Uniform-1 -7	41.232	0.0279	0.0216	0	49.644	0.005	0.166	8.895	0.376	0	0	100.37
Uniform-1 -8	40.705	0.0066	0.0329	0.0411	47.497	0.069	0.1175	11.59	0.336	0.0381	0.025	100.45
Uniform-1 -9	40.787	0.0301	0.0854	0.0482	48.185	0.063	0.1176	10.51	0.429	0.1051	0.012	100.37
Uniform-1 -10	41.054	0.0325	0.0586	0.0478	48.749	0.07	0.1374	10.29	0.374	0.0543	0	100.87
Uniform-1 -11	41.077	0.0076	0	0.0321	49.064	0.057	0.1063	9.758	0.411	0.0448	0	100.56
Uniform-1 -12	40.726	0.008	0.0352	0	47.816	0.027	0.1499	11.26	0.3	0.0368	0	100.36
Uniform-1 -13	40.55	0.0286	0	0.0117	46.665	0.04	0.1624	13.11	0.093	0.012	0	100.68

Victor-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Victor-1 -1	dk purple	41.311	0.2113	18.7271	6.4863	20.109	5.276	0.3876	7.474	0.018	0.0391	0	100.04
Victor-1 -2	dk purple	41.435	0.0761	19.2901	5.864	19.819	5.647	0.3484	7.601	0.035	0.0194	0.022	100.16
Victor-1 -3	dk purple	41.15	0.2073	18.1169	7.1466	19.868	5.432	0.4126	7.543	0.055	0.0553	0	99.985
Victor-1 -4	dk purple	41.782	0.2243	18.6916	6.4873	20.263	5.351	0.488	7.366	0	0.0467	0.029	100.73
Victor-1 -5	dk purple	41.199	0.3594	18.3279	7.076	20.061	5.29	0.3797	7.444	0	0.0653	0	100.2
Victor-1 -6	dk purple	41.366	0.1631	18.5852	6.8571	20.11	5.209	0.4304	7.247	0	0.0337	0	100
Victor-1 -7	dk purple	41.148	0.1504	18.2835	7.0023	19.517	5.856	0.4203	7.601	0	0.0301	0	100.01
Victor-1 -8	dk purple	41.894	0.3134	20.0728	4.4744	20.915	4.986	0.3275	7.325	0	0.0405	0.034	100.38
Victor-1 -9	dk purple	41.396	0.206	19.5398	5.0797	20	5.121	0.4238	7.888	0.015	0.0416	0	99.71
Victor-1 -10	dk purple	41.139	0.1366	17.3553	8.3789	19.299	6.009	0.4157	7.147	0.028	0.038	0	99.946
Victor-1 -11	dk purple	40.791	0.5373	18.1113	6.3989	18.072	5.979	0.4263	9.611	0.028	0.0414	0.052	100.05
Victor-1 -12	dk purple	40.602	0.4026	16.9187	8.3505	18.751	6.153	0.4221	8.054	0.007	0.0554	0.038	99.755
Victor-1 -13	dk purple	40.707	0.3819	17.2139	8.0541	19.094	6.27	0.4001	7.72	0	0.0306	0	99.871
Victor-1 -14	dk purple	41.134	0.2123	18.5926	6.6461	19.693	5.444	0.3865	7.979	0.026	0.0395	0.036	100.19
Victor-1 -15	dk purple	41.185	0.3936	18.6007	6.2746	20.021	5.443	0.38	7.528	0.062	0.0649	0	99.952
Victor-1 -16	dk purple	40.58	0.3548	16.9743	8.3737	18.968	6.133	0.4723	7.998	0.012	0.0644	0	99.93
Victor-1 -17	dk purple	41.43	0.1598	18.8514	6.7529	20.024	5.104	0.4205	7.317	0.025	0.0441	0	100.13
Victor-1 -18	dk purple	41.682	0.2191	20.4272	3.9927	20.416	4.688	0.4174	7.829	0	0.0448	0	99.716
Victor-1 -19	dk purple	41.046	0.2631	17.3846	8.0526	19.189	6.078	0.4436	7.444	0	0.0446	0	99.947
Victor-1 -20	dk purple	41.33	0.1486	18.6679	6.8501	20.137	5.269	0.4009	7.332	0	0.0285	0.023	100.19
Victor-1 -21	dk purple	41.101	0.1546	18.041	7.0144	19.37	5.705	0.4106	7.425	0.001	0.0301	0.008	99.262
Victor-1 -22	dk purple	41.008	0.1946	18.1722	6.9759	19.637	5.799	0.4538	7.662	0.023	0.0285	0	99.954
Victor-1 -23	dk purple	41.465	0.2436	19.1839	5.8472	20.184	4.983	0.4307	7.426	0.013	0.0543	0	99.832
Victor-1 -24	dk purple	41.702	0.1354	19.475	5.7035	20.402	4.976	0.4183	7.397	0.04	0.0405	0.015	100.3
Victor-1 -25	dk purple	41.484	0.2257	19.3699	5.5067	20.265	5.118	0.3888	7.422	0.029	0.0531	0.018	99.88
Victor-1 -26	dk purple	41.332	0.2318	18.2062	7.1458	19.778	5.413	0.4146	7.502	0.025	0.0347	0	100.08
Victor-1 -27	dk purple	41.365	0.2332	18.7943	6.3904	20.017	5.39	0.3646	7.508	0	0.0513	0	100.11
Victor-1 -28	dk purple	41.071	0.1682	18.3422	6.9093	20.151	5.333	0.4233	7.314	0.026	0.0335	0	99.773
Victor-1 -29	dk purple	41.223	0.2789	18.7045	6.29	19.922	5.246	0.4067	7.469	0.041	0.0529	0.011	99.646
Victor-1 -30	dk purple	41.196	0.1362	18.4501	6.8313	20.006	5.291	0.3929	7.647	0.049	0.0436	2E-04	100.04
Victor-1 -31	dk purple	41.403	0.3177	18.3908	6.6273	19.98	5.376	0.3699	7.739	0.003	0.0484	0	100.25
Victor-1 -32	dk purple	41.549	0.1401	19.3383	5.6984	20.164	5.163	0.4112	7.42	0.004	0.0395	0.013	99.94
Victor-1 -33	dk purple	40.961	0.2592	17.662	7.4851	18.981	5.615	0.4351	8.142	0.031	0.0614	0	99.632
Victor-1 -34	dk purple	41.371	0.1848	18.3095	7.013	19.574	5.854	0.4397	7.756	0.04	0.0374	0	100.58
Victor-1 -35	dk purple	41.108	0.1811	18.1011	7.0516	19.466	5.72	0.4441	7.599	0	0.0297	0	99.7
Victor-1 -36	dk purple	40.84	0.3027	16.7224	8.8597	19.519	5.948	0.3525	6.964	0.057	0.0487	0	99.613
Victor-1 -37	dk purple	41.271	0.1965	18.245	7.0011	19.529	5.746	0.3951	7.557	0	0.0318	0	99.973
Victor-1 -38	dk purple	41.103	0.348	17.771	7.4339	19.864	5.338	0.4847	7.237	0.004	0.0519	0	99.636
Victor-1 -39	dk purple	41.562	0.1553	18.5949	6.6183	20.042	5.532	0.4108	7.458	0	0.0283	0	100.4
Victor-1 -40	dk purple	41.673	0.1282	19.8508	4.9673	20.523	4.968	0.4088	7.344	0	0.0424	0	99.905
Victor-1 -41	dk purple	41.371	0.2499	18.5097	6.4249	20.059	5.352	0.3982	7.536	0.007	0.0514	0	99.96
Victor-1 -42	dk purple	41.04	0.2784	17.4836	7.8277	19.513	5.948	0.4339	7.616	0	0.0496	0	100.19
Victor-1 -43	dk purple	40.68	0.4717	17.1337	8.0148	18.716	6.222	0.4503	7.932	0	0.0792	0	99.699
Victor-1 -44	dk purple	41.268	0.099	19.4407	5.7339	20.124	5.234	0.4589	7.458	0	0.0315	0.005	99.853
Victor-1 -45	dk purple	40.979	0.3554	17.0635	8.2342	18.762	6.016	0.4067	8.156	0.04	0.0665	0.018	100.1
Victor-1 -46	dk purple	40.99	0.1955	18.114	7.1822	19.353	5.816	0.4565	7.687	0	0.0394	0	99.833
Victor-1 -47	dk purple	41.409	0.3339	18.2578	6.3115	20.145	5.636	0.4066	7.679	0.035	0.0219	0	100.23
Victor-1 -48	dk purple	41.387	0.2312	18.5805	6.3365	20.045	5.211	0.3898	7.58	0.037	0.0456	0	99.842
Victor-1 -49	dk purple	41.345	0.3425	19.4254	5.4961	20.313	4.878	0.4292	7.895	0.007	0.0572	0	100.19
Victor-1 -50	dk purple	41.98	0.1637	20.0176	5.0512	20.58	5.007	0.3989	7.384	0.019	0.0398	0.016	100.66
Victor-1 -51	purple	41.769	0.1371	20.0084	4.8585	20.589	5.063	0.3709	7.543	0.032	0.0288	0.032	100.43
Victor-1 -52	purple	41.559	0.0267	21.3489	3.2004	19.836	4.544	0.6629	8.638	0.041	0.0249	0	99.882
Victor-1 -53	purple	41.662	0.015	21.261	3.5752	20.346	4.6	0.5213	8.068	0.037	0.0226	0	100.11
Victor-1 -54	purple	41.566	0.2127	18.6426	6.449	19.962	5.304	0.4137	7.442	0.048	0.0429	0.012	100.1
Victor-1 -55	purple	41.322	0.2215	18.6829	6.4986	20.102	5.322	0.4137	7.371	0.031	0.0495	0	100.01
Victor-1 -56	purple	41.847	0.1426	19.8585	5.0102	20.61	4.964	0.4157	7.563	0.013	0.0444	0	100.47
Victor-1 -57	purple	41.38	0.2344	18.6109	6.5493	20.193	5.318	0.4079	7.572	0.013	0.0605	0.012	100.35
Victor-1 -58	purple	41.033	0.2218	17.1801	7.9672	19.177	6.282	0.4242	7.413	0	0.0219	0	99.72
Victor-1 -59	purple	41.192	0.128	18.1835	7.0885	19.984	5.303	0.4176	7.497	0	0.0311	0.029	99.853

Victor-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Victor-1 -60	purple	40.478	0.5252	16.3407	8.9382	18.32	6.667	0.4326	7.84	0	0.0906	0	99.632
Victor-1 -61	purple	41.746	0.2885	21.0581	3.1829	20.612	4.648	0.3619	8.002	0	0.0613	0	99.961
Victor-1 -62	purple	41.231	0.2049	18.0521	7.1973	19.957	5.541	0.4414	7.408	0	0.0493	0	100.08
Victor-1 -63	purple	41.198	0.2453	18.5893	6.48	19.887	5.34	0.4151	7.381	0.002	0.056	0.006	99.599
Victor-1 -64	purple	41.393	0.0299	20.6314	4.4171	19.291	5.618	0.4476	8.536	0.026	0.0027	0	100.39
Victor-1 -65	purple	42.004	0.2176	20.9076	3.7191	20.749	4.759	0.3982	7.401	0	0.0475	0	100.2
Victor-1 -66	purple	41.789	0.0131	20.8203	3.6985	20.457	4.826	0.5021	7.707	0	0.0131	0	99.826
Victor-1 -67	purple	41.318	0.1404	18.5639	6.5986	19.838	5.577	0.3856	7.492	0.016	0.031	0	99.96
Victor-1 -68	purple	41.525	0.1058	20.4882	4.2228	18.742	6.194	0.5629	8.47	0	0.0133	0.009	100.33
Victor-1 -69	purple	41.864	0.0253	21.0038	4.2782	20.612	4.542	0.4668	7.889	0	0.0195	0	100.7
Victor-1 -70	purple	41.329	0.1258	18.3595	6.9628	19.956	5.285	0.4586	7.295	0.021	0.0342	7E-04	99.826
Victor-1 -71	purple	41.671	0.1749	20.5656	3.8137	20.475	4.835	0.4009	7.825	0	0.0277	0	99.79
Victor-1 -72	purple	41.765	0.1406	20.5979	4.0639	20.7	4.611	0.3756	7.376	0	0.0309	0	99.66
Victor-1 -73	purple	41.598	0.0164	20.9475	4.0233	20.174	4.689	0.5393	8.407	0.015	0.006	0	100.41
Victor-1 -74	purple	41.883	0.2147	19.6791	5.104	20.342	4.85	0.416	7.627	0	0.0588	0	100.17
Victor-1 -75	purple	41.749	0.1828	20.7835	3.8354	20.528	4.798	0.4107	7.753	0	0.0252	0	100.07
Victor-1 -76	purple	41.347	0.3113	19.7564	4.8244	20.543	5.033	0.3977	7.433	0.022	0.0536	0	99.721
Victor-1 -77	purple	41.376	0.1653	18.0719	6.9506	19.039	6.51	0.4181	7.235	0.021	0.0149	5E-04	99.802
Victor-1 -78	purple	41.633	0	20.9988	3.7866	19.355	5.425	0.5957	8.581	0	0.0205	0	100.4
Victor-1 -79	purple	41.202	0.2024	17.2324	7.9089	19.1	6.29	0.3866	7.63	0	0.0251	0.022	99.999
Victor-1 -80	purple	41.115	0.2064	18.3591	7.1799	19.815	5.384	0.4768	7.486	0	0.0512	0.047	100.12
Victor-1 -81	purple	41.37	0.1943	19.3446	5.4733	19.67	5.312	0.3465	8.065	0.029	0.0414	0	99.846
Victor-1 -82	purple	41.738	0.2865	20.9457	3.3061	20.42	4.679	0.4092	8.167	0	0.0492	0	100
Victor-1 -83	purple	41.417	0.1543	19.3568	5.6395	20.017	5.288	0.3977	7.465	0.016	0.0309	0	99.781
Victor-1 -84	purple	41.568	0.3024	19.1162	5.5504	20.741	5.235	0.3136	7.189	0	0.039	0	100.05
Victor-1 -85	purple	41.676	0.2966	19.0056	5.9952	20.24	4.98	0.3891	7.478	0	0.0543	0.055	100.17
Victor-1 -86	purple	41.864	0.0164	20.4503	4.6574	20.073	4.924	0.5032	7.892	0.006	0.0316	0	100.42
Victor-1 -87	purple	41.536	0.1531	19.8115	4.9421	20.476	4.983	0.3853	7.557	0	0.0454	0	99.89
Victor-1 -88	purple	40.187	0.0492	20.6076	3.4498	14.984	6.268	0.6683	13.9	0	0.0022	0.015	100.13
Victor-1 -89	purple	41.478	0.0586	21.4191	3.4822	19.876	4.873	0.5638	8.598	0	0.0175	0	100.37
Victor-1 -90	purple	41.636	0.0645	21.2046	3.5516	19.35	5.028	0.562	8.797	0	0.0137	1E-04	100.21
Victor-1 -91	purple	41.479	0	20.1949	4.6096	18.53	5.66	0.4912	8.882	0	0.0163	0	99.862
Victor-1 -92	purple	42.013	0.1231	21.1672	3.1959	20.572	4.911	0.3759	7.91	0	0.047	0.02	100.34
Victor-1 -93	purple	41.893	0.1141	20.7896	3.9942	20.727	4.678	0.3521	7.388	0	0.0352	0.034	100
Victor-1 -94	purple	41.521	0.0509	18.9082	6.3507	20.607	4.861	0.3499	6.985	0	0.0312	0	99.665
Victor-1 -95	purple	41.523	0.2492	19.5605	5.3799	20.49	4.976	0.4453	7.755	0	0.0515	0.012	100.44
Victor-1 -96	purple	41.608	0.1608	20.4743	3.9359	20.655	4.863	0.4264	7.881	0	0.0312	0.037	100.07
Victor-1 -97	purple	42.056	0.2096	20.7096	4.2304	20.916	4.794	0.3476	7.616	0.043	0.0309	0	100.95
Victor-1 -98	purple	41.607	0.1809	19.9172	4.9791	20.53	4.995	0.3068	7.136	0.029	0.0411	0	99.722
Victor-1 -99	purple	41.842	0.0244	22.3244	2.1011	19.727	4.682	0.4279	9.238	0	0.0029	0.002	100.37
Victor-1 -100	purple	41.105	0.1526	18.58	6.6292	20.07	5.258	0.4282	7.337	0	0.0294	0.023	99.612
Victor-1 -101	red	42.077	0.3158	21.941	1.7799	20.151	4.173	0.3953	9.721	0.037	0.0635	0.022	100.67
Victor-1 -102	red	41.963	0.1985	20.8661	3.6548	20.738	4.637	0.3872	7.857	0.044	0.0467	0	100.39
Victor-1 -103	red	41.684	0.3801	21.4711	1.8627	20.64	3.892	0.4012	9.526	0	0.0946	0	99.951
Victor-1 -104	red	41.866	0.3128	20.8101	3.1391	20.706	4.705	0.3943	8.175	0.078	0.0513	0	100.24
Victor-1 -105	red	41.966	0.2327	20.4901	4.2636	21.098	4.548	0.3605	7.533	0.05	0.0436	0	100.59
Victor-1 -106	red	41.679	0.24	20.6218	3.8729	20.397	4.769	0.4038	8.225	0.015	0.0437	0	100.27
Victor-1 -107	red	41.803	0.1223	19.8485	4.9389	20.653	5.047	0.3334	7.474	0	0.0424	0	100.26
Victor-1 -108	red	41.707	0.3054	19.345	5.3824	20.359	4.764	0.4371	7.78	0	0.0675	0	100.15
Victor-1 -109	red	41.47	0.1684	20.4046	3.9862	20.539	4.925	0.3731	7.879	0	0.0455	0	99.791
Victor-1 -110	red	41.815	0.2142	20.5903	4.1703	20.676	4.752	0.4052	7.938	0.025	0.044	0	100.63
Victor-1 -111	red	41.159	0.2702	18.9191	6.0304	19.972	5.087	0.4351	8.037	0.016	0.0449	0.007	99.977
Victor-1 -112	red	42.059	0.3219	20.7552	3.6867	21.188	4.028	0.3675	7.581	0.003	0.0658	0	100.06
Victor-1 -113	red	41.913	0.2094	20.5811	4.1069	20.789	4.72	0.3677	7.426	0.009	0.044	0	100.17
Victor-1 -114	red	41.453	0.3357	20.1717	4.027	20.318	4.301	0.4754	8.504	0	0.0667	0	99.653
Victor-1 -115	red	42.132	0.2969	20.7562	3.7315	20.732	4.812	0.427	7.538	0	0.0489	0.004	100.48
Victor-1 -116	red	41.882	0.2665	20.3861	4.3376	20.778	4.846	0.4084	7.463	0.013	0.0431	0.019	100.44
Victor-1 -117	red	41.254	0.4164	18.5903	6.1178	19.718	5.773	0.3807	7.786	0.034	0.0434	0	100.11
Victor-1 -118	red	41.684	0.022	20.7449	4.3794	19.331	5.525	0.4894	8.244	0	0.0025	0	100.42

Victor-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Victor-1 -119	red	41.858	0.2242	20.624	3.9619	20.67	4.634	0.4114	7.856	0	0.0522	0.009	100.3
Victor-1 -120	red	41.844	0.2059	20.5329	4.0972	20.953	4.59	0.3408	7.768	0.019	0.0634	0	100.41
Victor-1 -121	red	41.19	0.2689	19.4837	5.4265	19.947	5.128	0.4005	8.014	0	0.0482	0.005	99.912
Victor-1 -122	red	41.276	0.1587	18.3663	6.8631	19.584	5.604	0.4775	7.569	0.018	0.0362	0.012	99.966
Victor-1 -123	red	41.942	0.3684	19.7154	4.9645	20.891	5.201	0.3366	7.054	0.003	0.0559	0	100.53
Victor-1 -124	red	41.521	0.212	19.1291	6.1962	20.242	5.498	0.3685	7.171	0	0.0398	0	100.38
Victor-1 -125	red	41.433	0.3398	19.4679	4.981	19.874	5.563	0.3682	8.333	0.079	0.062	0	100.5
Victor-1 -126	red	42.119	0.279	20.3713	4.1073	20.511	4.597	0.4097	8.053	0	0.0523	0	100.5
Victor-1 -127	red	41.956	0.2727	20.7363	3.9229	20.757	4.667	0.4492	7.895	0	0.0527	0.028	100.74
Victor-1 -128	red	42.272	0.363	21.4908	1.8145	20.539	3.918	0.4014	9.649	0.03	0.0993	0	100.58
Victor-1 -129	red	41.658	0.217	21.1054	3.4094	20.361	4.929	0.4128	8.071	0	0.0261	0	100.19
Victor-1 -130	red	41.817	0.3717	21.4808	1.7919	20.55	3.913	0.4016	9.329	0.01	0.0913	0	99.757
Victor-1 -131	red	41.769	0.3758	21.3817	1.8707	20.422	3.957	0.4072	9.403	0	0.0864	0.002	99.675
Victor-1 -132	red	41.867	0.5239	20.1367	3.4306	19.977	4.6	0.3461	9.092	0.04	0.0728	0	100.09
Victor-1 -133	red	41.261	0.3034	19.2649	5.7818	20.182	5.01	0.3598	7.813	0	0.0493	0	100.02
Victor-1 -134	red	42.147	0.2155	21.1949	3.4314	21.023	4.621	0.3569	7.364	0.015	0.045	0	100.41
Victor-1 -135	red	41.856	0.373	21.0434	2.5673	20.044	4.507	0.3843	9.581	0	0.0525	0.056	100.46
Victor-1 -136	red	41.971	0.0817	20.6084	4.1487	20.357	5.075	0.3114	7.914	0.006	0.0323	0	100.5
Victor-1 -137	red	41.752	0.4519	19.9512	4.2479	20.81	4.829	0.3384	7.112	0.016	0.0687	0.012	99.589
Victor-1 -138	red	41.902	0.3512	21.0808	3.2454	20.799	4.706	0.3778	8.017	0	0.0588	0	100.54
Victor-1 -139	red	41.73	0.5476	20.1472	3.3909	20.217	4.593	0.4166	9.057	0	0.0587	0	100.16
Victor-1 -140	red	42.121	0.2526	20.9509	3.515	21.244	4.641	0.4104	7.373	0	0.0351	0	100.54
Victor-1 -141	red	41.56	0.1703	19.7797	4.8628	20.525	5.036	0.3479	7.405	0.006	0.0386	0	99.731
Victor-1 -142	red	41.946	0.3126	20.9961	3.1916	20.634	4.654	0.4229	8.056	0.004	0.047	0	100.27
Victor-1 -143	red	41.45	0.2271	20.3156	4.134	20.489	4.86	0.4154	7.985	0.004	0.0444	0.01	99.934
Victor-1 -144	red	41.677	0.1721	20.4802	4.2781	20.359	4.691	0.4252	8.066	0.018	0.0371	0.038	100.24
Victor-1 -145	red	41.935	0.3655	21.5642	1.8502	20.505	3.966	0.3917	9.549	0.053	0.0844	0	100.26
Victor-1 -146	red	41.846	0.3369	21.0051	3.4749	20.597	4.636	0.3876	8.016	0	0.0501	0	100.35
Victor-1 -147	red	41.292	0.1932	18.3169	7.0872	19.627	5.643	0.4044	7.662	0	0.0358	0.036	100.3
Victor-1 -148	red	41.795	0.1875	19.6762	5.2597	20.405	5.177	0.3688	7.468	0.025	0.0424	0	100.4
Victor-1 -149	red	41.636	0.5106	21.0368	2.4812	19.647	5.119	0.407	9.409	0	0.0816	0	100.33
Victor-1 -150	red	41.779	0.1833	20.3792	4.0096	20.359	4.957	0.352	7.802	0.01	0.0347	0.026	99.892
Victor-1 -151	red	42.118	0.4084	21.4219	1.8363	20.601	3.905	0.3848	9.336	0.012	0.0965	0	100.12
Victor-1 -152	red	42.247	0.5654	21.5948	2.1823	21.085	4.48	0.2992	8.12	0.015	0.0637	0.015	100.67
Victor-1 -153	red	41.839	0.3798	21.9574	1.3306	20.159	3.976	0.382	10.08	0	0.087	0.007	100.2
Victor-1 -154	red	42.084	0.4079	21.4708	1.864	20.443	3.893	0.3708	9.599	0.01	0.0875	0	100.23
Victor-1 -155	red	41.784	0.3584	21.8882	1.3508	19.979	4.013	0.4184	10.21	0	0.089	0.006	100.1
Victor-1 -156	red	41.687	0.1874	20.5679	4.0881	20.838	4.66	0.3763	7.508	0.026	0.0458	6E-04	99.985
Victor-1 -157	red	41.847	0.4296	20.6338	3.0036	19.883	4.929	0.3647	8.968	0	0.0509	5E-04	100.11
Victor-1 -158	red	42.146	0.3482	21.5824	1.8966	20.597	3.879	0.3778	9.69	0.019	0.0889	0.03	100.66
Victor-1 -159	red	41.742	0.207	20.6132	3.9761	20.464	4.784	0.3776	8.046	0.025	0.0428	1E-04	100.28
Victor-1 -160	red	42.034	0.1856	21.7527	2.4914	20.626	4.622	0.3741	8.155	0.021	0.0274	0.016	100.31
Victor-1 -161	red	41.852	0.3285	21.0665	3.1017	20.598	4.585	0.3443	8.005	0.012	0.0574	0	99.951
Victor-1 -162	red	42.008	0.3884	21.8478	1.343	20.186	4.031	0.406	9.959	0	0.1003	0	100.27
Victor-1 -163	red	42.203	0.3925	22.0993	1.3609	20.17	3.974	0.3918	10.2	0.006	0.0808	0	100.87
Victor-1 -164	red	41.682	0.3832	21.682	1.3944	20.121	3.884	0.4565	10.41	0	0.0795	0.035	100.12
Victor-1 -165	red	41.64	0.4102	21.3614	2.0498	19.737	4.147	0.4334	10.49	0.044	0.0767	0.015	100.41
Victor-1 -166	red	41.753	0.479	20.4032	3.2482	20.265	4.367	0.376	9.019	0.024	0.0884	0.024	100.05
Victor-1 -167	red	42.082	0.3977	21.4681	1.8763	20.589	3.886	0.3963	9.733	0	0.0943	0.003	100.53
Victor-1 -168	red	41.044	0.417	19.8566	3.6549	17.865	6.742	0.4501	9.789	0	0.0394	0	99.858
Victor-1 -169	red	41.998	0.3808	21.4305	1.9017	20.608	3.889	0.3807	9.601	0.032	0.0962	0	100.32
Victor-1 -170	red	42.052	0.395	22.0281	1.3249	20.27	3.935	0.454	10.03	0.002	0.0764	0.06	100.63
Victor-1 -171	red	41.695	0.4175	20.7403	3.1035	19.43	4.877	0.4716	9.584	0	0.072	0	100.39
Victor-1 -172	red	42.249	0.44	21.5762	1.8188	20.956	3.598	0.4386	9.538	0.015	0.1123	0	100.74
Victor-1 -173	red	42.056	0.3978	21.4778	1.7653	20.494	3.852	0.4119	9.561	0.052	0.0978	0.045	100.21
Victor-1 -174	red	41.786	0.386	21.5174	1.8988	20.52	3.899	0.4048	9.487	0.013	0.0863	0	99.998
Victor-1 -175	red	41.94	0.3884	21.3869	1.8808	20.57	4.02	0.4456	9.566	0.04	0.0907	0	100.33
Victor-1 -176	red	41.811	0.3254	21.1495	3.0606	20.627	4.545	0.3388	7.855	0.041	0.0553	0	99.808
Victor-1 -177	red	41.611	0.3066	20.3409	4.0342	20.104	4.954	0.4059	8.337	0	0.0464	0	100.14

Victor-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Victor-1 -178	red	42.136	0.1622	20.6521	3.828	20.6	4.89	0.371	7.94	0.003	0.0372	0	100.62
Victor-1 -179	red	41.814	0.3907	19.9062	4.3761	20.652	4.852	0.3471	7.239	0.005	0.0576	0	99.64
Victor-1 -180	red	41.987	0.4285	21.9362	1.3961	19.993	4.132	0.4014	9.985	0	0.0769	0	100.34
Victor-1 -181	red	41.406	0.2716	22.3836	0.643	18.17	4.074	0.3206	12.95	0.031	0.0624	0	100.31
Victor-1 -182	red	41.863	0.4185	21.4977	1.9256	20.447	3.849	0.4119	9.449	0	0.0958	0	99.957
Victor-1 -183	red	41.94	0.3978	22.0269	1.3434	20.15	4.021	0.4837	10.11	0.005	0.0829	0.004	100.56
Victor-1 -184	red	42.154	0.2053	21.2656	3.1979	20.846	4.417	0.3658	7.664	0	0.0509	0	100.17
Victor-1 -185	red	41.524	0.315	20.0725	4.2888	20.464	4.538	0.3666	7.901	0.001	0.0511	0	99.522
Victor-1 -186	red	41.975	0.3944	21.3308	1.8404	20.473	3.931	0.3892	9.796	0.028	0.0888	0	100.25
Victor-1 -187	red	42.134	0.4182	21.599	1.8872	20.485	3.92	0.3386	9.415	0	0.0831	0.015	100.3
Victor-1 -188	red	41.804	0.2881	21.2451	2.7662	20.552	4.545	0.3615	8.274	0	0.0548	0	99.89
Victor-1 -189	red	41.713	0.2289	20.5295	3.9682	20.602	4.626	0.3794	7.874	0.059	0.0573	0.023	100.06
Victor-1 -190	red	41.855	0.1995	22.3183	1.6549	19.804	4.378	0.44	9.771	0	0.0522	0	100.47
Victor-1 -191	red	41.697	0.2313	19.3313	5.5194	20.106	4.816	0.3941	8.073	0.013	0.0533	0	100.23
Victor-1 -192	red	41.664	0.3687	21.6722	1.2877	20.064	4.06	0.4104	10.09	0.004	0.094	0	99.716
Victor-1 -193	red	41.969	0.3903	21.8712	1.3775	20.249	3.989	0.4118	10.09	0	0.0899	0	100.44
Victor-1 -194	red	41.438	0.5532	20.5677	2.6671	19.628	4.981	0.3987	9.661	0.004	0.0439	0	99.943
Victor-1 -195	red	41.762	0.4007	21.4324	1.833	20.434	3.959	0.3851	9.506	0.013	0.0928	0.028	99.846
Victor-1 -196	red	41.721	0.4598	20.4615	3.2673	19.889	5.057	0.4016	9.071	0.069	0.0509	0.034	100.48
Victor-1 -197	red	41.647	0.2491	20.4225	3.7954	20.858	4.465	0.4205	7.794	0	0.0638	0	99.716
Victor-1 -198	red	41.996	0.3738	21.5559	1.9176	20.423	3.965	0.3512	9.584	0	0.0995	0	100.27
Victor-1 -199	red	42.029	0.3892	21.3926	1.7976	20.409	3.977	0.3906	9.856	0	0.1032	0	100.34
Victor-1 -200	red	41.537	0.5027	21.5011	2.2992	20.887	4.141	0.3545	8.24	0	0.0641	0.032	99.558
Victor-1 -201	orange	41.953	0.4045	21.6157	1.8394	20.43	3.885	0.3992	9.497	0.109	0.1107	0	100.24
Victor-1 -202	orange	41.411	0.1145	23.3002	0.0468	18.244	3.894	0.3293	12.8	0.028	0.0518	0.023	100.25
Victor-1 -203	orange	42.185	0.035	23.228	0.8872	20.608	4.152	0.5048	8.656	0	0.04	0.007	100.3
Victor-1 -204	orange	41.454	0.3894	21.6684	1.3746	19.911	4.057	0.3935	10.05	0.021	0.1079	0	99.431
Victor-1 -205	orange	41.959	0.383	21.5087	1.9104	20.452	3.925	0.3583	9.356	0.009	0.0786	0	99.939
Victor-1 -206	orange	41.921	0.255	22.2275	1.0968	20.458	4.184	0.4067	9.49	0.018	0.1007	0.014	100.17
Victor-1 -207	orange	42.169	0.3877	21.3819	1.8205	20.495	3.982	0.4105	9.522	0.052	0.104	0	100.32
Victor-1 -208	orange	41.764	0.3894	21.8133	1.3323	20.077	3.957	0.4218	10.16	0	0.0876	0	100
Victor-1 -209	orange	41.913	0.3853	21.5228	1.8155	20.515	3.886	0.3541	9.649	0.028	0.0993	0.026	100.19
Victor-1 -210	orange	42.053	0.4021	21.4203	1.9462	20.455	3.951	0.3393	9.554	0.027	0.0915	0	100.24
Victor-1 -211	orange	42.242	0.3769	21.475	1.8069	20.401	3.895	0.4339	9.632	0.018	0.0882	0	100.37
Victor-1 -212	orange	41.853	0.3955	21.8429	1.2869	20.144	4.009	0.3916	10.18	0.012	0.0965	0	100.21
Victor-1 -213	orange	41.938	0.4245	21.6362	1.8862	20.525	3.918	0.3529	9.518	0.027	0.0826	0	100.31
Victor-1 -214	orange	41.74	0.3984	21.9208	1.3722	19.931	3.997	0.4486	10.26	0.061	0.089	0	100.22
Victor-1 -215	orange	41.865	0.3694	21.8567	1.3295	19.84	3.894	0.4385	10.6	0	0.0738	0	100.27
Victor-1 -216	orange	41.656	0.3942	21.4795	1.8275	20.373	3.883	0.3937	9.682	0	0.106	0	99.795
Victor-1 -217	orange	39.065	0.0966	21.6614	0.057	9.4701	6.256	0.4802	22.92	0.003	0.0145	0	100.02
Victor-1 -218	orange	42.174	0.3905	21.6465	1.859	20.619	4.023	0.357	9.804	0	0.0968	0	100.97
Victor-1 -219	orange	41.813	0.3759	21.33	1.8805	20.582	3.903	0.3515	9.556	0	0.0854	0.026	99.902
Victor-1 -220	orange	41.804	0.3993	21.4712	1.9396	20.537	3.903	0.4177	9.531	0.062	0.1064	0	100.17
Victor-1 -221	orange	41.922	0.4007	21.4389	1.8799	20.522	3.843	0.4106	9.596	0	0.0936	0.017	100.12
Victor-1 -222	orange	41.776	0.3653	21.8954	1.4003	20.132	4.005	0.4108	10.08	0	0.0777	0	100.14
Victor-1 -223	orange	41.376	0.4442	20.2483	3.2619	19.776	5.139	0.3935	9.111	0.013	0.041	0	99.804
Victor-1 -224	orange	42.014	0.3926	21.3237	1.8558	20.511	3.904	0.4038	9.444	0.013	0.0786	0	99.941
Victor-1 -225	orange	41.496	0.5074	21.4256	1.7456	18.875	5.166	0.5059	10.83	0	0.0653	0	100.62
Victor-1 -226	orange	41.35	0.3557	21.3341	1.8162	20.535	3.955	0.374	9.672	0	0.0924	0	99.485
Victor-1 -227	orange	41.915	0.3784	21.4464	1.8673	20.51	3.965	0.4094	9.587	0.04	0.0916	0.002	100.21
Victor-1 -228	orange	41.898	0.318	22.085	1.1493	20.174	4.262	0.3911	9.998	0.064	0.1037	0	100.44
Victor-1 -229	orange	41.708	0.3559	21.4469	1.7909	20.56	3.948	0.4575	9.418	0	0.108	0	99.793
Victor-1 -230	orange	41.777	0.356	21.6476	1.836	20.651	3.937	0.3842	9.533	0	0.0816	0	100.2
Victor-1 -231	orange	40.269	0.074	22.6499	0.088	13.638	4.028	0.4377	19.8	0	0.0244	0	101.01
Victor-1 -232	orange	42.019	0.3891	21.6555	1.8186	20.432	3.935	0.4346	9.622	0.009	0.0993	0	100.41
Victor-1 -233	orange	42.012	0.3783	22.314	1.1308	19.856	3.751	0.4473	10.53	0.003	0.0925	0.002	100.51
Victor-1 -234	orange	42.043	0.4097	21.405	1.8516	20.737	3.648	0.3658	9.331	0.046	0.0887	0.056	99.981
Victor-1 -235	orange	41.9	0.3688	22.0278	1.2609	20.263	3.962	0.4152	10.02	0.049	0.0848	0	100.35
Victor-1 -236	orange	41.809	0.2758	21.3779	2.5388	20.919	4.102	0.2857	8.291	0	0.0629	0	99.662

Victor-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Victor-1 -237	orange	38.617	0.0483	21.4035	0.0988	6.4594	8.534	0.5343	24.7	0.029	0.0279	0	100.45
Victor-1 -238	orange	41.992	0.4002	21.7766	1.3251	20.14	3.98	0.3713	10.15	0	0.0979	0	100.23
Victor-1 -239	orange	41.261	0.0681	22.8623	0.5084	17.372	5.126	0.4927	12.78	0.031	0.0106	0	100.52
Victor-1 -240	orange	40.96	0.0551	22.9097	0.1283	15.11	4.569	0.456	16.38	0	0.0332	0	100.6
Victor-1 -241	orange	41.598	0.3842	21.6918	1.3488	19.92	4.106	0.4207	10.01	0.013	0.094	0	99.591
Victor-1 -242	orange	42.186	0.2695	22.1667	1.1006	20.415	4.266	0.3972	9.346	0.034	0.0948	0.046	100.32
Victor-1 -243	orange	41.949	0.4153	21.5569	1.8694	20.549	3.885	0.3573	9.521	0	0.0927	0.011	100.21
Victor-1 -244	orange	41.365	0.2871	22.6436	0.5668	18.584	4.184	0.4074	11.87	0.027	0.0454	0	99.985
Victor-1 -245	orange	41.635	0.3538	21.5904	1.7853	20.431	4.11	0.4223	9.436	0	0.0776	0	99.841
Victor-1 -246	orange	41.279	0.2747	22.4268	0.6988	18.13	3.981	0.359	12.87	0.019	0.0506	0	100.09
Victor-1 -247	orange	41.787	0.4901	21.6975	2.0466	20.994	4.202	0.3508	8.083	0.028	0.0735	0.011	99.763
Victor-1 -249	orange	41.819	0.4218	21.4172	1.8716	20.532	3.79	0.4097	9.427	0	0.0788	0.017	99.784
Victor-1 -250	orange	39.534	0.1407	21.998	0.0199	10.336	6.89	0.4165	20.75	0.004	0.0424	0	100.13
Victor-1 -251	orange	41.829	0.4349	21.3663	1.8938	20.469	3.932	0.4336	9.548	0	0.0962	0.003	100
Victor-1 -252	orange	41.913	0.384	21.3658	1.9345	20.474	3.952	0.3572	9.733	0.022	0.0853	0.012	100.23
Victor-1 -253	orange	42.172	0.422	21.7298	1.8493	20.589	3.944	0.3729	9.502	0.019	0.0984	0	100.7
Victor-1 -254	orange	41.738	0.3913	21.4428	1.8667	20.511	3.878	0.3926	9.497	0	0.0988	0.002	99.817
Victor-1 -255	orange	41.834	0.3636	21.7631	1.3137	20.2	3.874	0.3827	9.972	0	0.0863	0.006	99.795
Victor-1 -256	orange	42.02	0.3375	21.687	1.5731	20.612	3.811	0.3558	10.02	0.041	0.0739	0	100.54
Victor-1 -257	orange	41.753	0.3973	21.3952	1.8457	20.601	3.949	0.4533	9.506	0.043	0.0929	0	100.04
Victor-1 -258	orange	41.843	0.3852	21.7185	1.2667	20.013	3.94	0.4011	10.1	0.022	0.0836	0	99.772
Victor-1 -259	orange	41.791	0.4024	21.4763	1.8946	20.498	3.908	0.4321	9.689	0.031	0.0849	0	100.21
Victor-1 -260	orange	41.751	0.3907	21.345	1.8746	20.642	3.888	0.4321	9.544	0.021	0.0916	0	99.98
Victor-1 -261	orange	41.812	0.4126	21.4251	1.803	20.412	3.883	0.3405	9.469	0	0.0887	0.01	99.656
Victor-1 -262	orange	41.973	0.2634	22.3072	1.8476	20.926	4.224	0.4583	8.481	0	0.0435	0.005	100.53
Victor-1 -264	orange	41.986	0.3738	21.9311	1.3668	20.106	4.166	0.3346	10.35	0.03	0.0918	0	100.73
Victor-1 -265	orange	41.858	0.3841	21.5534	1.814	20.664	3.884	0.4029	9.45	0	0.0872	0.008	100.11
Victor-1 -266	orange	41.909	0.4033	21.4446	1.8542	20.521	3.887	0.3547	9.523	0	0.0757	0.007	99.979
Victor-1 -267	orange	41.918	0.3615	21.9278	1.2868	20.32	3.946	0.4154	9.879	0.049	0.0962	0	100.2
Victor-1 -268	orange	42.108	0.4029	21.7527	1.3062	20.095	4	0.4013	10.02	0.013	0.0998	0	100.2
Victor-1 -269	orange	41.833	0.3478	22.077	1.2163	19.886	4.138	0.4139	10.04	0	0.0963	0.008	100.06
Victor-1 -270	orange	41.999	0.2761	22.2198	1.6678	20.878	4.142	0.4334	8.314	0	0.0378	0.006	99.974
Victor-1 -271	orange	41.884	0.2724	21.7202	2.1117	20.401	4.387	0.3466	8.36	0	0.0341	0	99.517
Victor-1 -272	orange	42.348	0.2183	22.1415	1.7523	21.354	4.383	0.3458	7.395	0	0.0431	0.013	99.995
Victor-1 -273	orange	41.989	0.4061	21.5698	1.9141	20.616	3.892	0.3659	9.519	0	0.0965	0	100.37

Victor-1 Chromite

Sample	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Victor-1 -1	0.0492	3.6992	0.0113	0	1.932	50.679	0.527	7.887	0.076	0.422	34.33	0.093	0.152	99.86	11.538	23.95	101.02
Victor-1 -2	0.0185	2.8873	0.0189	0.0013	2.823	52.629	0.483	8.627	0.07	0.381	30.97	0.266	0.092	99.265	10.136	21.85	100.28
Victor-1 -3	0.0178	0.6183	0.0013	0	3.016	55.839	0.304	7.168	0.023	0.685	31.32	0.078	0.217	99.288	10.794	21.61	100.37
Victor-1 -4	0.0423	0.4949	0.0153	0	9.983	56.437	0.226	11.37	0.015	0.367	20.4	0.157	0.048	99.552	4.3611	16.48	99.989
Victor-1 -5	0.0411	2.7222	0	0	1.627	56.499	0.526	8.859	0	0.655	28.08	0.159	0.209	99.375	7.8293	21.03	100.16
Victor-1 -6	0.0049	3.2098	0	0	0.479	49.795	0.806	6.758	0.025	0.943	37	0.148	0.193	99.361	13.677	24.69	100.73
Victor-1 -7	0.0536	2.9239	0.0101	0	6.056	52.775	0.32	10.45	0	0.405	26.32	0.097	0.243	99.656	7.5288	19.54	100.41
Victor-1 -8	0.0336	2.4289	0.0299	0.002	0.521	56.601	0.6	7.622	0.025	0.514	30.58	0.195	0.055	99.203	8.6401	22.8	100.07
Victor-1 -9	0	0.043	0.0179	0	10.94	56.292	0.331	10.96	0.065	0.318	20.85	0.15	0.196	100.17	4.2765	17.01	100.6
Victor-1 -10	0	0.2792	0	0	27.61	37.178	0.25	11.71	0.026	0.367	21.86	0.126	0.281	99.689	3.9056	18.35	100.08
Victor-1 -11	0.0108	0.0589	0.0144	0.0063	21.01	48.503	0.224	12.13	0.037	0.353	17.8	0.034	0.33	100.51	1.1991	16.72	100.63
Victor-1 -12	0.0311	3.2103	0	0.0066	2.018	51.334	0.637	8.066	0.017	0.454	32.89	0.126	0.113	98.906	10.866	23.12	99.995
Victor-1 -15	0.0139	0.1111	0	0	10.31	55.449	0.383	10.14	0.059	0.521	22.4	0.108	0.196	99.697	4.8769	18.01	100.19
Victor-1 -17	0.0081	1.2676	0.0064	0	10.12	46.628	0.198	8.176	0.058	0.348	32.23	0.113	0.248	99.397	11.502	21.88	100.55
Victor-1 -18	0.0001	0.0781	0.0243	0.0473	10.55	56.663	0.333	11.17	0	0.485	20.52	0.113	0.17	100.16	4.2936	16.66	100.59
Victor-1 -22	0.0259	2.6936	0	0	0.545	53.915	0.598	7.054	0.009	0.575	33.69	0.078	0.193	99.374	10.871	23.91	100.46
Victor-1 -28	0.0206	3.5119	0	0	1.366	50.91	0.497	7.644	0.028	0.644	34.12	0.112	0.107	98.958	11.753	23.54	100.14
Victor-1 -29	0.04	3.6154	0.0025	0.0079	1.853	52.954	0.627	8.58	0.072	0.404	31.61	0.171	0.149	100.09	9.6456	22.93	101.05
Victor-1 -30	0	0.101	0	0.0525	13.44	51.597	0.287	10.55	0.052	0.424	22.78	0.04	0.181	99.504	5.4614	17.87	100.05
Victor-1 -38	0.045	0.3783	0	0.0066	2.634	55.703	0.448	7.325	0.032	0.472	32.06	0.098	0.133	99.331	11.574	21.64	100.49
Victor-1 -41	0.0338	3.9302	0.0401	0.0429	1.915	50.363	0.506	7.99	0	0.425	33.77	0.2	0.175	99.39	11.083	23.8	100.5
Victor-1 -43	0.0481	0.3814	0.0279	0	7.097	58.847	0.444	11.21	0.024	0.529	21.31	0.122	0.1	100.14	5.3086	16.54	100.68
Victor-1 -48	0.0092	3.2702	0	0.0158	0.527	48.684	0.657	6.821	0.028	0.658	38	0.234	0.146	99.054	14.889	24.61	100.55
Victor-1 -49	0.0076	2.5589	0	0	0.414	53.935	0.654	6.628	0.056	0.6	34.09	0.17	0.146	99.262	10.865	24.32	100.35
Victor-1 -50	0.0233	0.0726	0.027	0	13.1	52.879	0.222	10.69	0.035	0.218	22.15	0.133	0.232	99.779	4.9736	17.68	100.28
Victor-1 -51	0	3.2025	0.0163	0	1.652	53.973	0.538	8.522	0	0.532	30.81	0.123	0.162	99.528	9.5143	22.25	100.48
Victor-1 -54	0.0226	0.2201	0.0243	0	10.32	54.43	0.34	9.909	0	0.533	23.92	0.167	0.183	100.07	5.9299	18.58	100.67
Victor-1 -55	0.0297	2.4102	0	0	1.349	57.829	0.572	9.024	0.022	0.521	27.51	0.201	0.094	99.561	7.5213	20.74	100.31
Victor-1 -63	0.0286	0.225	0.0078	0	15.57	53.097	0.276	11.41	0.108	0.475	18.74	0.024	0.243	100.21	1.9296	17.01	100.4
Victor-1 -66	0.0382	3.788	0.0275	0	0.798	47.81	0.695	7.145	0.055	0.556	37.63	0.146	0.136	98.829	14.241	24.82	100.26
Victor-1 -67	0.0184	3.8484	0.0288	0.0191	1.009	47.17	0.735	7.114	0	0.471	37.12	0.197	0.102	97.833	13.688	24.8	99.204
Victor-1 -70	0.0113	1.4616	0	0.0519	3.966	51.432	0.562	8.1	0.024	0.572	32.74	0.242	0.105	99.267	12.398	21.58	100.51
Victor-1 -71*	0.0047	0.0819	0	0	13.6	51.999	0.213	10.99	0.001	0.259	21.67	0.063	0.021	98.912	4.9621	17.21	99.409

* This chromite grain was mixed in with the Victor-1 ilmenite analyses

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
Victor-1 -1	core	0.021	51.036	0.082	0.056	0.185	2.348	0.07	10.41	0.019	0.315	34.85	0.178	0	99.563	8.619	27.09	100.43	54.655	37.474	7.870	100
Victor-1 -2	core	0.006	52.213	0.062	0.000	0.202	2.454	0	10.931	0	0.273	32.87	0.133	0.035	99.18	6.400	27.11	99.822	54.806	39.374	5.820	100
Victor-1 -3	core	0.013	51.406	0.121	0.021	0.214	4.633	0.116	12.163	0	0.38	30.12	0.138	0.042	99.37	6.425	24.34	100.01	49.751	44.324	5.925	100
Victor-1 -4	core	0.031	50.857	0.071	0.032	0.173	2.828	0.038	10.356	0	0.303	34.59	0.067	0.058	99.402	8.379	27.05	100.24	54.867	37.460	7.673	100
Victor-1 -5	core	0.007	49.68	0.115	0.046	0.074	4.107	0.195	10.049	0.015	0.262	34.56	0.112	0	99.226	8.574	26.85	100.08	55.184	36.847	7.969	100
Victor-1 -6	core	0.022	50.227	0.123	0.054	0.088	3.313	0.187	10.526	0.003	0.284	33.73	0.056	0.071	98.68	8.042	26.49	99.486	54.158	38.400	7.442	100
Victor-1 -7	core	0.019	51.742	0.074	0.024	0.120	3.130	0.256	10.805	0	0.452	33.11	0.097	0	99.828	6.516	27.25	100.48	55.097	38.955	5.947	100
Victor-1 -8	core	0.028	51.592	0.094	0.098	0.165	2.542	0.099	11.031	0.038	0.388	33.4	0.185	0	99.656	7.696	26.47	100.43	53.284	39.665	7.051	100
Victor-1 -9	core	0.02	52.724	0.072	0.038	0.239	2.139	0.057	11.144	1E-04	0.267	32.89	0.042	0.066	99.696	6.098	27.4	100.31	54.764	39.723	5.512	100
Victor-1 -10	core	0.003	50.803	0.139	0.032	0.129	3.523	0.208	10.51	0	0.312	33.88	0.142	0	99.677	7.636	27.01	100.44	54.893	38.099	7.009	100
Victor-1 -11	core	0.033	50.683	0.092	0.019	0.103	3.696	0.183	10.46	0.003	0.364	33.64	0.137	0.003	99.412	7.519	26.87	100.16	54.939	38.129	6.932	100
Victor-1 -12	core	0.02	50.647	0.107	0.046	0.101	3.600	0.124	10.653	0	0.312	33.18	0.136	0	98.924	7.448	26.48	99.67	54.199	38.904	6.898	100
Victor-1 -13	core	0.024	49.862	0.203	0.045	0.000	3.625	0.219	9.998	0.057	0.443	34.74	0.099	0.037	99.35	8.604	27	100.21	55.410	36.607	7.984	100
Victor-1 -14	core	0.014	51.782	0.099	0.066	0.154	3.347	0.099	12.255	0.023	0.221	30.78	0.166	0.005	99.013	6.833	24.63	99.698	49.655	44.095	6.251	100
Victor-1 -15	core	0.008	49.915	0.108	0.006	0.011	4.259	0.031	10.216	0	0.335	33.93	0.064	0	98.881	8.299	26.46	99.712	54.664	37.617	7.719	100
Victor-1 -16	core	0.022	50.189	0.145	0.041	0.074	4.058	0.237	10.283	0	0.319	34.15	0.137	0.037	99.689	8.052	26.9	100.5	55.033	37.522	7.445	100
Victor-1 -17	core	0.011	49.797	0.152	0.057	0.097	3.581	0	9.834	0.026	0.428	35.25	0.113	0	99.341	9.279	26.9	100.27	55.292	36.076	8.632	100
Victor-1 -18	core	0.012	50.047	0.364	0.047	0.000	3.760	0.178	10.411	0.041	0.479	34.1	0.14	0	99.582	8.453	26.5	100.43	54.193	37.989	7.818	100
Victor-1 -19	core	0.034	50.729	0.129	0.024	0.133	4.721	0.121	11.395	0	0.253	31	0.17	0.053	98.759	6.408	25.23	99.401	52.086	41.943	5.971	100
Victor-1 -20	core	0.028	50.659	0.092	0.008	0.259	2.430	0.085	10.288	0	0.411	34.93	0.075	0.079	99.346	8.887	26.94	100.24	54.665	37.214	8.121	100
Victor-1 -21	core	0.013	50.926	0.140	0.018	0.102	3.110	0.162	10.591	0.021	0.374	33.75	0.188	0.026	99.423	7.785	26.75	100.2	54.434	38.423	7.143	100
Victor-1 -22	core	0.012	51.127	0.141	0.056	0.101	4.506	0.08	11.547	0	0.334	31.46	0.183	0	99.543	6.938	25.21	100.24	51.495	42.084	6.421	100
Victor-1 -23	core	0.001	50.271	0.196	0.041	0.025	3.501	0.117	10.31	0.013	0.516	34.18	0.162	0.034	99.368	8.498	26.53	100.22	54.413	37.711	7.876	100
Victor-1 -24	core	0.025	50.41	0.129	0.000	0.298	5.236	0.015	11.998	0.01	0.199	30.58	0.179	0.027	99.101	7.605	23.73	99.863	48.898	44.052	7.050	100
Victor-1 -25	core	0.019	51.098	0.155	0.016	0.157	3.281	0.318	10.815	0	0.343	32.95	0.063	0	99.216	6.644	26.97	99.882	54.769	39.149	6.082	100
Victor-1 -26	core	0.016	51.223	0.297	0.070	0.038	3.942	0.277	11.425	0.014	0.421	31.83	0.153	0.074	99.783	6.629	25.87	100.45	52.499	41.392	6.109	100
Victor-1 -27	core	0.021	49.952	0.188	0.014	0.021	4.137	0.26	10.365	0	0.254	33.85	0.121	0.021	99.205	7.943	26.71	100	54.769	37.891	7.340	100
Victor-1 -28	core	0.006	48.895	0.158	0.033	0.043	4.375	0.267	9.5593	0	0.268	34.9	0.083	0.003	98.59	8.554	27.2	99.447	56.539	35.434	8.028	100
Victor-1 -29	core	0.015	50.655	0.033	0.002	0.193	2.434	0.346	10.472	0.011	0.16	34.07	0.073	0.053	98.516	7.635	27.2	99.281	55.176	37.855	6.970	100
Victor-1 -30	core	0.022	49.084	0.154	0.009	0.086	4.836	0.134	10.106	0.027	0.351	33.82	0.118	0.145	98.889	8.788	25.91	99.769	54.114	37.620	8.266	100
Victor-1 -31	core	0.018	50.703	0.110	0.000	0.159	2.478	0.169	10.204	0	0.273	34.89	0.127	0	99.127	8.298	27.42	99.959	55.579	36.854	7.567	100
Victor-1 -32	core	0.029	48.794	0.181	0.086	0.000	3.049	0.471	9.2118	0	0.379	36.67	0.134	0	99.006	9.660	27.98	99.974	57.322	33.698	8.980	100
Victor-1 -33	core	0.022	50.891	0.077	0.000	0.230	2.460	0.226	10.461	0.024	0.227	34.99	0.193	0	99.798	8.718	27.14	100.67	54.605	37.503	7.891	100
Victor-1 -34	core	0.032	51.226	0.108	0.002	0.150	3.504	0.07	10.837	0.017	0.28	33.03	0.19	0	99.446	7.223	26.53	100.17	54.042	39.337	6.621	100
Victor-1 -35	core	0.008	48.989	0.239	0.054	0.058	3.465	0.301	9.2967	0	0.356	36.31	0.155	0.074	99.303	9.576	27.69	100.26	56.966	34.124	8.911	100
Victor-1 -36	core	0	50.333	0.064	0.000	0.129	3.322	0.119	10.489	0.01	0.326	33.77	0.179	0	98.746	8.291	26.31	99.576	53.992	38.354	7.654	100
Victor-1 -37	core	0.01	51.231	0.252	0.039	0.023	4.017	0.108	11.52	0.016	0.395	31.69	0.288	0.079	99.668	7.152	25.25	100.38	51.501	41.905	6.595	100
Victor-1 -38	core	0.021	50.157	0.098	0.023	0.001	3.607	0	9.8761	0.03	0.328	34.65	0.111	0.108	99.007	8.413	27.08	99.85	55.852	36.321	7.827	100
Victor-1 -39	core	0.009	51.172	0.166	0.045	0.107	3.089	0.092	10.595	0	0.219	34	0.122	0.005	99.617	7.601	27.16	100.38	54.868	38.185	6.946	100
Victor-1 -40	core	0.026	52.061	0.022	0.044	0.172	2.407	0.33	10.907	0.01	0.184	33.21	0.124	0.045	99.543	6.208	27.63	100.16	55.373	38.995	5.633	100
Victor-1 -42	core	0.026	49.685	0.159	0.000	0.067	4.045	0	10.117	0	0.253	34.28	0.176	0	98.806	8.726	26.43	99.681	54.622	37.264	8.114	100
Victor-1 -43	core	0.005	52.154	0.074	0.003	0.134	2.732	0.006	10.992	0	0.281	32.8	0.145	0	99.33	6.468	26.99	99.978	54.533	39.585	5.882	100
Victor-1 -44	core	0.009	50.474	0.109	0.012	0.053	3.832	0.029	10.661	0.034	0.272	33.83	0.174	0.016	99.501	8.618	26.07	100.36	53.254	38.816	7.930	100
Victor-1 -45	core	0.005	49.667	0.110	0.000	0.061	3.746	0.035	9.9956	0.042	0.472	34.88	0.143	0.048	99.199	9.509	26.32	100.15	54.369	36.794	8.837	100
Victor-1 -46	core	0.024	49.037	0.165	0.008	0.000	4.248	0.172	9.9107	0	0.355	34.83	0.104	0.071	98.927	9.375	26.4	99.866	54.672	36.585	8.743	100
Victor-1 -47	core	0.009	50.216	0.160	0.004	0.044	3.757	0.199	10.516	0.037	0.309	33.6	0.167	0.069	99.085	8.070	26.34	99.894	54.068	38.475	7.457	100
Victor-1 -48	core	0.008	51	0.066	0.010	0.164	2.411	0.172	10.373	0.052	0.289	34.95	0.099	0	99.594	8.524	27.28	100.45	54.992	37.270	7.738	100
Victor-1 -49	core	0.015	49.368	0.133	0.028	0.000	4.132	0.152	9.8713	0.05	0.384	35.16	0.113	0.119	99.525	9.560	26.56	100.48	54.787	36.314	8.899	100
Victor-1 -50	core	0.026	52.738	0.072	0.035	0.183	2.019	0	10.834	0.032	0.412	32.64	0.142	0.146	99.279	5.684	27.53	99.849	55.701	39.097	5.202	100
Victor-1 -51	core	0.008	50.316	0.154	0.033	0.078	3.791	0.119	10.531	0	0.274	33.27	0.228	0.058	98.859	7.725	26.32	99.633	54.166	38.653	7.181	100
Victor-1 -52	core	0.011	51.269	0.149	0.003	0.166	4.625	0.031	11.332	0.05	0.385	31.43	0.167	0.058	99.679	6.628	25.47	100.34	52.355	41.513	6.132	100
Victor-1 -53	core	0.016	52.009	0.087	0.040	0.130	2.883	0	11.05	0.01	0.273	32.83	0.113	0	99.443	6.685	26.82	100.11	54.122	39.776	6.102	100
Victor-1 -54	core	0.014	50.664	0.084	0.032	0.132	2.339	0.214	10.356	0.007	0.477	34.71	0.125	0.077	99.233	8.694	26.89	100.1	54.564	37.472	7.963	100
Victor-1 -55	core	0.044	51.367	0.164	0.014	0.124	3.504	0.08	10.824	0.029	0.25	32.76	0.11	0.008	99.28	6.556	26.87	99.937	54.700	39.284	6.016	100
Victor-1 -56	core	0.023	51.002	0.104	0.052	0.183	2.551	0.122	10.623	0.037	0.324	34.09	0.192	0.021	99.328	8.193	26.72	100.15	54.109	38.382	7.508	100
Victor-1 -57	core	0.007	49.267	0.125	0.000	0.026	4.381	0.109	9.6558	0	0.335	34.9	0.122	0	98.931	8.833	26.96	99.816	55.999	35.745	8.256	100
Victor-1 -58	core	0.029	51.89	0.138	0.000	0.140	2.417	0.248	10.953	0	0.268	32.78	0.202	0.021	99.088	6.165	27.23	99.705	54.989	39.411	5.600	100
Victor-1 -59	core	0.007	49.277	0.099	0.000	0.054	4.281	0.19	9.8975	0	0.352	35.04	0.164	0.048	99.408	9.452	26.53	100.35	54.796	36.422	8.782	100
Victor-1 -60	core	0.01	50.447	0.099	0.000	0.122	3.881	0.036	10.527	0	0.331	33.85	0.2	0.056	99.559	8.496	26.21	100.41	53.715	38.450	7.835	100
Victor-1 -61	core	0.02	51.71	0.093	0.008	0.191	2.434	0.174	10.844	0.022	0.345	33.22	0.12	0.085	99.264	6.896	27.01	99.955	54.632	39.087	6.281	100
Victor-1 -62	core	0.007	50.265	0.127	0.032	0.091	3.737	0.256	10.497	0.017	0.43	33.85	0.178	0.021	99.509	8.260	26.42	100.34	54.061	38.307	7.632	100
Victor-1 -63	core	0.015	50.437	0.103	0.037	0.113	3.868	0.391	10.482	7E-04	0.327	33.73	0.167	0.008	99.674	7.532	26.95	100.43	54.944	38.116	6.940	100
Victor-1 -64	core	0.016	51.922	0.084	0.062	0.252	2.717	0	11.019	0	0.196	33.07	0.113	0.109	99.558	6.964	26.8	100.26	54.008	39.628	6.363	100
Victor-1 -65	core	0.014	48.981	0.123	0.000	0.049	4.165	0.226	9.7091	0.026	0.408	34.67	0.124	0.066	98.56	8.935	26.63	99.455	55.534	36.082	8.384	100
Victor-1 -66	core	0.028	49.519	0.114	0.016	0.102	4.039	0.155	9.9319	0.026	0.281	34.45	0.146	0.013	98.818	8.529	26.77	99.673	55.406	36.640	7.954	100
Victor-1 -67	core	0.027	49.211	0.164	0.037	0.083	4.404	0.014	9.7729	0.014	0.401	35.14	0.129	0.058	99.458	9.613	26.49	100.42	54.891	36.115	8.994	100
Victor-1 -68	core	0.031	52.156	0.100	0.016	0.167	2.515	0.139	10.807	0	0.371	33.37	0.123	0.011	99.809	6.509	27.52	100.46	55.346	38.751	5.903	100
Victor-1 -69	core	0.027	51.173	0.133	0.000	0.152	3.438	0.197	10.709	0	0.214	32.65	0.168	0	98.855	6.225	27.04	99.479	55.274	39.002	5.724	100
Victor-1 -70	core	0.022	50.54	0.076	0.019	0.174	2.589	0.391	10.177	0.029	0.33	34.95	0.118	0.045	99.456	8.248	27.53	100.28	55.733	36.737	7.530	100
Victor-1 -72	core	0	47.346	0.341	0.080	0.000	2.701	0.216	8.253	0	0.445	39.3	0.17	0	98.847	12.536	28.02	100.1	57.852	30.426	11.722	100
Victor-1 -73	core	0.003	51.307	0.152	0.019	0.147	3.561	0.108	10.487	0.015	0.282	33.57	0.148	0	99.798	6.906	27.35	100.49	55.638	38.027	6.335	100
Victor-1 -74	core	0.027	51.209	0.075	0.000	0.239	3.652	0.163	11.426	6E-04	0.301	31.85	0.108	0	99.048	6.889	25.65	99.738	52.229	41.460	6.311	100
Victor-1 -75	core	0.007	49.591	0.110	0.049	0.059	3.911	0	10.091	0	0.35	34.83	0.101	0.069	99.17	9.525	26.26	100.12	54.066	37.067	8.866	100
Victor-1 -76	rim	0.016	50.334	0.108	0.010	0.102	3.273	0.226	10.619	0	0.285	34.05	0.122	0.05	99.199	8.518	26.39	100.05	53.688	38.506	7.805	100
Victor-1 -77	core	0	50.502	0.082	0.049	0.046	3.247	0.147	10.561	0	0.374	34.27	0.141	0.064	99.483	8.772	26.38	100.36	53.628	38.306	8.066	100
Victor-1 -78	rim	0.009	50.852	0.250	0.045	0.000	3.709	0.165	12.274	0.075	0.449	31.59	0.161	0.056	99.638	8.804	23.67	100.52	47.772	44.195	8.033	100
Victor-1 -79	core	0.027	50.171	0.238	0.075	0.034	3.532	0.113	10.313	0.037	0.513	34.11	0.178	0	99.338	8.435	26.52	100.18	54.388	37.764	7.848	100
Victor-1 -80	rim	0.01	43.374	0.280	0.008	0.176	7.390	0.473	8.3715	0.054	0.347	38.23	0.226	0.108	99.051	15.351	24.42	100.59	52.798	32.261	14.941	100
Victor-1 -81	core	0.021	43.278	0.259	0.048	0.244	7.341	0.434	8.0732	0.014	0.311	38.17	0.218	0.008	98.422	14.634	25	99.888	54.338	31.302	14.360	100
Victor-1 -83	core	0.025	52.547	0.041	0.023	0.154	2.254	0	11.139	0.041	0.337	32.93	0.084	0	99.576	6.575	27.02	100.23	54.204	39.843	5.952	100

Victor-1 Ilmenite

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
Victor-1 -84	rim	0	52.111	0.110	0.000	0.177	2.409	0.167	11.027	0	0.281	33.26	0.096	0.074	99.711	6.787	27.15	100.39	54.461	39.414	6.125	100
Victor-1 -85	core	0.016	51.598	0.130	0.000	0.163	2.471	0.037	10.862	0.038	0.295	32.97	0.155	0	98.736	6.895	26.77	99.427	54.376	39.322	6.302	100
Victor-1 -13*	core	0	50.912	0.493	0.093	0.000	3.817	0	11.384	0	0.489	31.73	0.159	0.069	99.144	7.053	25.38	99.85	51.874	41.562	6.563	100
Victor-1 -14*	core	0.017	52.6	0.095	0.000	0.218	2.060	0	11.159	0.042	0.409	32.86	0.202	0	99.665	6.653	26.88	100.33	54.017	39.967	6.016	100
Victor-1 -16*	core	0.006	49.701	0.135	0.000	0.069	4.102	0.042	10.001	0.025	0.406	34.48	0.146	0.026	99.136	8.882	26.48	100.03	54.830	36.897	8.273	100
Victor-1 -19*	core	0.021	51.53	0.035	0.000	0.264	3.381	0.045	11.386	0	0.259	32.49	0.087	0.029	99.526	7.423	25.81	100.27	52.206	41.039	6.755	100
Victor-1 -20*	core	0.024	50.519	0.184	0.095	0.095	3.744	0.267	10.669	0.007	0.367	33.36	0.129	0	99.464	7.491	26.62	100.21	54.235	38.821	6.944	100
Victor-1 -21*	core	0.01	50.579	0.074	0.000	0.113	2.989	0.149	10.417	0.024	0.352	34.16	0.113	0.021	98.996	8.250	26.73	99.823	54.547	37.879	7.574	100
Victor-1 -23*	core	0.025	50.524	0.119	0.011	0.121	3.382	0.235	10.638	0.038	0.212	33.88	0.167	0	99.352	8.103	26.59	100.16	54.044	38.537	7.419	100
Victor-1 -24*	core	0.024	51.706	0.093	0.016	0.128	3.269	0	10.885	0.063	0.277	32.61	0.129	0.005	99.2	6.509	26.75	99.852	54.492	39.530	5.979	100
Victor-1 -25*	core	0.017	52.454	0.063	0.012	0.086	2.389	0.172	10.808	0.007	0.219	32.84	0.164	0	99.23	5.501	27.89	99.781	56.191	38.813	4.996	100
Victor-1 -26*	core	5E-04	51.613	0.433	0.059	0.012	4.817	0	12.888	0	0.347	29.1	0.282	0	99.555	6.416	23.33	100.2	47.377	46.713	5.910	100
Victor-1 -27*	core	0	50.208	0.144	0.003	0.082	3.387	0.285	10.269	0	0.364	34.11	0.151	0	99.006	7.967	26.94	99.804	55.178	37.478	7.343	100
Victor-1 -31*	core	0.02	52.897	0.113	0.008	0.257	2.609	0	11.643	0.04	0.239	31.67	0.11	0	99.605	5.666	26.57	100.17	53.276	41.606	5.117	100
Victor-1 -32*	core	0.024	48.979	0.134	0.003	0.032	4.352	0.237	9.4732	0	0.414	35.38	0.132	0.008	99.169	9.137	27.16	100.08	56.402	35.059	8.539	100
Victor-1 -33*	core	0.022	51.82	0.102	0.000	0.186	2.163	0.243	10.957	0	0.29	32.87	0.064	0	98.711	6.256	27.24	99.338	54.938	39.385	5.677	100
Victor-1 -34*	core	0.036	50.786	0.078	0.008	0.151	3.333	0.035	10.519	0.035	0.299	33.95	0.162	0.029	99.418	8.185	26.58	100.24	54.233	38.248	7.519	100
Victor-1 -35*	core	0.024	52.185	0.089	0.021	0.161	2.289	0.054	10.833	0	0.265	32.76	0.082	0.04	98.803	5.885	27.46	99.392	55.557	39.070	5.373	100
Victor-1 -36*	core	0.022	52.486	0.038	0.001	0.172	2.181	0.122	11.066	0.006	0.251	32.68	0.099	0.048	99.169	5.933	27.34	99.764	54.977	39.655	5.368	100
Victor-1 -37*	core	0.036	51.547	0.057	0.025	0.153	3.453	0	11.007	0.002	0.301	32.91	0.134	0	99.625	7.209	26.42	100.35	53.595	39.806	6.599	100
Victor-1 -39*	core	0.028	51.291	0.136	0.000	0.096	3.211	0.105	10.705	0.035	0.375	32.8	0.172	0	98.959	6.668	26.8	99.627	54.837	39.026	6.137	100
Victor-1 -40*	core	0.038	52.046	0.088	0.000	0.198	2.210	0.155	10.965	0	0.209	32.8	0.087	0.048	98.844	6.103	27.31	99.455	55.064	39.400	5.536	100
Victor-1 -42*	core	0	48.007	0.158	0.000	0.025	4.233	0.068	9.1619	0	0.24	36.68	0.125	0.09	98.782	11.109	26.68	99.895	55.577	34.011	10.412	100
Victor-1 -44*	core	0.01	48.692	0.259	0.054	0.032	3.045	0.339	8.937	0.014	0.484	37.55	0.156	0.092	99.66	10.629	27.98	100.72	57.419	32.720	9.861	100
Victor-1 -45*	core	0.033	50.571	0.030	0.038	0.269	4.020	0.183	11.22	0	0.17	32.04	0.164	0.085	98.822	7.309	25.46	99.554	52.199	41.028	6.773	100
Victor-1 -46*	core	0.013	49.339	0.198	0.044	0.000	3.619	0	9.652	0	0.419	35.81	0.155	0.048	99.296	9.999	26.81	100.3	55.228	35.466	9.305	100
Victor-1 -47*	core	0.021	52.455	0.055	0.067	0.145	2.091	0	10.971	0.018	0.31	32.98	0.07	0.011	99.191	6.274	27.33	99.82	54.924	39.351	5.725	100
Victor-1 -52*	core	0.009	51.911	0.034	0.034	0.134	2.458	0.131	11.006	0.006	0.317	33.08	0.126	0.056	99.299	6.928	26.85	99.993	54.118	39.571	6.311	100
Victor-1 -53*	core	0.006	51.135	0.029	0.020	0.267	3.089	0.142	10.88	0.013	0.294	32.83	0.188	0.074	98.967	7.248	26.31	99.693	53.718	39.607	6.675	100
Victor-1 -56*	core	0.045	52.282	0.060	0.010	0.158	2.414	0	10.942	0	0.438	33.11	0.068	0	99.525	6.641	27.13	100.19	54.673	39.299	6.029	100
Victor-1 -57*	core	0.008	51.42	0.079	0.019	0.169	2.935	0.045	10.81	0	0.309	32.87	0.099	0.021	98.788	6.827	26.73	99.472	54.461	39.266	6.274	100
Victor-1 -59*	core	0.015	48.612	0.265	0.000	0.047	3.179	0.019	9.0208	0.014	0.452	37.2	0.117	0	98.943	10.910	27.39	100.04	56.619	33.233	10.147	100
Victor-1 -60*	core	0	53.327	0.055	0.070	0.221	2.139	0	11.097	0.033	0.319	32.82	0.137	0.098	100.32	5.694	27.7	100.89	55.296	39.537	5.167	100
Victor-1 -61*	core	0.01	50.532	0.218	0.000	0.023	3.513	0.055	10.387	0.015	0.413	33.55	0.089	0.04	98.847	7.606	26.71	99.609	54.910	38.055	7.035	100
Victor-1 -62*	core	0.008	49.004	0.115	0.000	0.041	4.370	0	9.0634	0	0.288	36.62	0.097	0.026	99.633	9.978	27.64	100.63	57.251	33.451	9.298	100
Victor-1 -64*	core	0.037	50.836	0.042	0.000	0.323	3.489	0.163	11.142	0	0.287	32.53	0.21	0	99.055	7.571	25.71	99.813	52.503	40.542	6.955	100
Victor-1 -65*	core	0.046	49.955	0.173	0.027	0.057	4.179	0.189	10.159	0.041	0.4	33.97	0.127	0.058	99.385	8.033	26.75	100.19	55.162	37.361	7.477	100
Victor-1 -68*	core	0.016	51.211	0.083	0.039	0.090	3.738	0	10.615	0	0.278	33.55	0.231	0	99.85	7.538	26.77	100.61	54.506	38.556	6.939	100
Victor-1 -69*	core	0.034	52.558	0.078	0.013	0.206	2.017	0	11.001	0.013	0.274	33.42	0.098	0.05	99.757	6.731	27.36	100.43	54.718	39.216	6.066	100

* These ilmenite grains were mixed in with the Victor-1 chromite analyses

Victor-1 Pyroxene

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Victor-1 -1	55.09	0.1949	0.8287	2.0814	16.114	21.74	0.0542	2.689	0.01	1.6972	0	100.5
Victor-1 -2	54.88	0.2151	1.1759	1.7224	16.191	21.11	0.1196	3.078	0.052	1.751	0	100.3
Victor-1 -3	54.991	0.1849	0.6731	1.8617	16.262	21.86	0.0628	2.699	0.019	1.586	0.022	100.22
Victor-1 -4	54.885	0.1694	1.1394	1.8412	16.35	21.32	0.0796	2.88	0.047	1.7743	0	100.49
Victor-1 -5	54.962	0.1792	0.7406	1.8507	16.25	21.71	0.0612	2.696	0	1.5758	0	100.02
Victor-1 -6	55.194	0.1513	0.7014	1.8421	16.274	21.98	0.101	2.67	0	1.5512	0	100.46
Victor-1 -7	54.432	0.2007	0.883	1.7133	16.007	21.4	0.0697	3.107	0	1.7229	0.011	99.551
Victor-1 -8	55.141	0.1499	2.0959	1.2023	17.335	18.79	0.0839	3.472	0.044	1.7573	0.03	100.1
Victor-1 -9	54.768	0.1831	0.6953	1.9141	16.183	21.77	0.1138	2.648	0.009	1.6694	0	99.95
Victor-1 -10	54.729	0.1848	2.5045	2.4713	15.75	19.03	0.0966	2.742	0.068	2.5905	0	100.16
Victor-1 -11	54.912	0.1928	0.6428	1.9211	16.127	21.75	0.0868	2.709	0.012	1.577	0	99.927
Victor-1 -12	55.192	0.2564	4.3786	1.0947	15.815	14.89	0.1462	4.651	0.032	3.5079	0.013	99.978
Victor-1 -13	55.023	0.2263	2.9024	1.4768	16.416	18.17	0.1308	3.286	0.038	2.5006	0.013	100.18
Victor-1 -14	54.949	0.2532	2.7948	1.4078	16.483	18.18	0.0952	3.661	0.035	2.4158	0.03	100.31
Victor-1 -15	54.538	0.1998	0.7608	1.9528	15.923	21.38	0.091	2.991	0.026	1.7721	0	99.63
Victor-1 -16	54.789	0.1701	0.6549	1.8354	16.16	21.85	0.0569	2.819	0.04	1.6481	0	100.03
Victor-1 -17	55.071	0.109	0.2513	1.3855	16.53	23.2	0.0854	2.708	0.021	1.1665	0	100.53
Victor-1 -18	54.722	0.2722	2.9171	1.3315	16.238	18.42	0.0669	3.426	0.056	2.3956	0.012	99.852
Victor-1 -19	54.721	0.1754	0.6774	2.0594	16.112	21.76	0.0471	2.67	0.037	1.7158	0	99.98
Victor-1 -20	54.755	0.187	0.6046	1.9076	16.241	21.76	0.0982	2.591	0	1.6056	0	99.755
Victor-1 -21	54.894	0.1672	0.6438	1.8888	16.31	21.93	0.0583	2.714	0.05	1.6307	0.004	100.29
Victor-1 -22	54.533	0.2095	1.111	1.6704	16.078	21.2	0.0768	3.255	0.022	1.7562	0	99.912
Victor-1 -23	55.252	0.1477	2.8761	1.2958	17.29	16.86	0.0995	3.857	0.049	2.3991	0.06	100.19
Victor-1 -24	55.217	0.2131	0.6671	1.9486	16.248	21.76	0.0925	2.842	0.041	1.6644	0	100.69
Victor-1 -25	54.976	0.2638	2.8988	1.5059	16.137	18.24	0.0527	3.411	0.044	2.4875	0	100.02
Victor-1 -26	55.005	0.1947	0.678	1.9152	16.348	21.79	0.0725	2.739	0.044	1.5997	0	100.38
Victor-1 -27	54.865	0.1972	0.6704	1.8429	16.256	21.95	0.0584	2.785	0.004	1.5695	0.02	100.22
Victor-1 -28	55.2	0.1144	2.7539	1.3141	17.393	16.85	0.091	3.994	0.024	2.3189	0	100.05
Victor-1 -29	54.71	0.1719	0.7272	2.034	16.21	21.62	0.0854	2.861	0	1.6731	0.009	100.1
Victor-1 -30	54.732	0.3651	2.9298	2.5867	14.884	17.66	0.0767	3.772	0.006	3.1952	0	100.21
Victor-1 -31	55.172	0.2852	5.0261	0.7848	15.068	14.7	0.0795	4.978	0.037	3.871	0.006	100.01
Victor-1 -32	55.07	0.1836	0.7032	1.9424	16.373	21.74	0.0485	2.779	0.024	1.6293	0	100.49
Victor-1 -33	55.001	0.2274	2.8269	1.4547	16.378	18.15	0.1038	3.301	0.038	2.4467	0.039	99.969
Victor-1 -34	54.925	0.281	2.9297	1.6165	16.001	17.81	0.0768	3.559	0.049	2.6047	0	99.849
Victor-1 -35	54.806	0.1836	0.7011	1.7925	16.334	21.59	0.0811	2.898	0.032	1.5714	0.01	100
Victor-1 -36	54.796	0.1812	0.7563	1.8903	16.278	21.69	0.0996	2.656	0	1.6086	0.007	99.969
Victor-1 -37	55.121	0.2282	5.1772	0.6924	14.959	14.6	0.1291	4.875	0.059	3.9489	0	99.788
Victor-1 -38	55.08	0.2306	2.8801	1.3874	16.241	18.02	0.1052	3.52	0.047	2.4789	0	99.995
Victor-1 -39	54.976	0.1731	0.6695	1.9447	16.068	21.88	0.0142	2.691	0.016	1.6296	0	100.06
Victor-1 -40	54.595	0.3248	2.7508	2.6421	14.783	17.53	0.1476	3.578	0.031	3.1518	0.01	99.542
Victor-1 -41	55.418	0.2694	5.2139	0.7948	15.081	14.65	0.1349	4.914	0.034	3.9642	0	100.47
Victor-1 -42	54.883	0.16	0.6173	1.7844	16.214	21.86	0.0996	2.772	0.046	1.6068	0	100.04
Victor-1 -43	54.895	0.1669	0.5081	1.9237	16.372	22.11	0.0754	2.353	0.049	1.3998	0.011	99.861
Victor-1 -44	55.397	0.1965	4.2179	1.0043	16.624	14.35	0.1675	4.799	0.087	3.3656	0.014	100.22
Victor-1 -45	54.901	0.214	1.2862	1.3946	16.095	21.27	0.1281	3.293	0.01	1.768	0	100.36
Victor-1 -46	54.627	0.1702	0.6974	1.8505	16.319	21.81	0.0911	2.665	0.053	1.5624	0	99.846
Victor-1 -47	54.974	0.2082	0.9207	1.9412	16.063	21.33	0.0684	2.901	0.013	1.6881	0.012	100.11
Victor-1 -48	54.785	0.1648	0.7445	1.8686	16.291	21.6	0.0982	2.691	0.084	1.6389	0.006	99.976
Victor-1 -49	55.118	0.2247	1.2187	1.3019	16.123	21.11	0.0697	3.276	0.004	1.7311	0	100.18
Victor-1 -50	55.127	0.2032	5.2796	0.7169	14.75	14.76	0.0938	4.759	0	3.9898	0.017	99.693
Victor-1 -51	55.185	0.2592	3.0409	1.4368	16.282	17.99	0.0868	3.318	0.037	2.5006	0.017	100.15
Victor-1 -52	54.974	0.2382	2.8795	1.7111	16.045	17.95	0.0938	3.534	0.015	2.5794	0	100.02
Victor-1 -53	54.771	0.2553	2.8835	1.4516	16.279	18.05	0.0939	3.338	0.016	2.4936	0	99.636
Victor-1 -54	54.818	0.2463	1.6556	1.0962	16.194	20.55	0.0797	3.612	0.022	1.8969	0.057	100.22
Victor-1 -55	55.222	0.279	2.8774	1.3656	16.27	18.19	0.1095	3.391	0.062	2.4834	0	100.25
Victor-1 -56	54.622	0.2323	1.3046	1.4241	16.062	20.92	0.1338	3.333	0.072	1.7677	0.019	99.887
Victor-1 -57	54.727	0.2564	1.4425	1.5881	16.152	20.52	0.0627	3.177	0.016	1.8695	0.041	99.85
Victor-1 -58	54.57	0.2202	1.1369	1.7345	16.175	21.1	0.0825	3.214	0.018	1.7708	0	100.02
Victor-1 -59	54.834	0.1789	0.647	1.8691	16.217	21.7	0.0542	2.786	0.028	1.5772	0	99.887

Victor-1 Pyroxene

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Victor-1 -60	54.91	0.2113	1.295	1.3842	16.196	21.01	0.0797	3.178	0	1.7315	0.007	100
Victor-1 -61	54.612	0.2196	1.8924	0.6686	17.732	19.02	0.1025	3.977	0.043	1.5047	0.013	99.78
Victor-1 -62	54.878	0.1833	0.6199	2.0345	16.002	21.91	0.1025	2.665	0.015	1.7073	0.021	100.13
Victor-1 -63	54.871	0.1974	1.0421	1.0866	16.226	21.56	0.0884	3.33	0.025	1.5417	0.005	99.978
Victor-1 -64	55.062	0.165	0.6964	1.8671	16.134	21.81	0.1054	2.722	0.003	1.608	0.02	100.19
Victor-1 -65	54.547	0.0456	1.0456	0.7855	16.904	23.19	0.0813	2.592	0.019	0.8077	0	100.02
Victor-1 -66	54.533	0.2257	1.0579	1.6659	16.004	21	0.0925	3.076	0.008	1.7459	0.037	99.448
Victor-1 -67	54.887	0.237	4.1631	1.0154	16.45	14.4	0.1151	4.77	0.075	3.3176	0.011	99.438
Victor-1 -68	54.874	0.247	1.2717	1.4337	16.099	20.93	0.1182	3.304	0.025	1.7782	0.006	100.09
Victor-1 -69	54.747	0.1548	0.6192	1.9355	16.194	21.76	0.0841	2.707	0.013	1.6693	0	99.888
Victor-1 -70	55.152	0.2952	5.2389	0.6969	14.813	14.51	0.1251	4.799	0.053	3.9498	0.01	99.644
Victor-1 -71	55.071	0.2227	4.0522	0.9765	16.499	14.58	0.1762	4.76	0.029	3.3539	0.018	99.74
Victor-1 -72	55.468	0.2078	5.7158	0.8182	14.863	14.2	0.1492	4.684	0.081	4.2136	0.02	100.42
Victor-1 -73	55.095	0.2857	5.2651	0.7572	14.607	14.98	0.1421	4.783	0.033	3.9326	0.03	99.908
Victor-1 -74	55.048	0.2776	2.0942	1.6309	15.555	19.16	0.0895	3.915	0.028	2.4587	0.008	100.26
Victor-1 -75	55.098	0.2081	3.3959	0.7612	16.443	17.12	0.0824	4.337	0.05	2.7273	0.017	100.24

Victor-1 Olivine

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Victor-1 -1	41.148	0.0137	0	0.02	49.892	0.024	0.1684	8.584	0.345	0.0057	0.006	100.21
Victor-1 -2	41.046	0.0241	0	0.0189	49.937	0.056	0.1585	8.425	0.403	0.0043	0	100.07
Victor-1 -3	40.526	0.031	0.0109	0.0152	47.751	0.02	0.1509	11.05	0.233	0.0004	0	99.792
Victor-1 -5	40.76	0.0353	0	0.0314	48.529	0.039	0.1341	10.08	0.265	0.0004	0.01	99.888
Victor-1 -6	40.993	0.0517	0.0366	0.0377	48.959	0.008	0.1357	9.873	0.269	0.0085	0	100.37
Victor-1 -7	41.216	0	0	0.0021	50.934	0.003	0.088	6.857	0.307	0.0075	0.021	99.434
Victor-1 -8	41.2	0.0179	0	0.0169	49.94	0.024	0.1104	8.418	0.37	0.0129	0	100.11
Victor-1 -9	41.258	0.0108	0	0.0535	49.688	0.031	0.1344	8.831	0.293	0.0061	0	100.31
Victor-1 -10	41.11	0.026	0	0.0471	50.552	0.026	0.0553	7.969	0.393	0.0008	0	100.18
Victor-1 -11	41.274	0	0	0.0519	49.843	0.042	0.0948	8.633	0.412	0.0189	0	100.37
Victor-1 -12	41.264	0	0.0585	0.013	50.221	0.023	0.1204	8.312	0.361	0.0054	0.049	100.43
Victor-1 -13	40.81	0.0362	0	0.0249	48.488	0.004	0.1256	10.3	0.277	0.006	0.011	100.08

Sample	colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO*	NiO	Na2O	K2O	Total	I.D.
Whiskey-1 -gar-dp-1	dk purple	41.37	0.11	20.59	3.94	20.14	4.79	0.38	8.32	0.05	0.04	0	99.71	Cr-pyrope
Whiskey-1 -gar-dp-2	dk purple	41.31	0.28	19.28	5.35	19.82	5.29	0.42	7.59	0	0.05	0	99.39	Cr-pyrope
Whiskey-1 -gar-dp-3	dk purple	40.95	0.31	17.69	7.28	19.08	5.93	0.43	7.6	0	0.05	0	99.32	Cr-pyrope
Whiskey-1 -gar-dp-4	dk purple	41.11	0.07	15.45	11.14	21.64	3.85	0.25	6.21	0.05	0.02	0	99.8	Cr-pyrope
Whiskey-1 -gar-dp-5	dk purple	41.26	0.38	18.46	6.04	20.76	4.22	0.35	7.95	0	0.15	0.01	99.58	Cr-pyrope
Whiskey-1 -gar-dp-6	dk purple	41.47	0.05	19.76	5.55	20.5	4.9	0.44	7.53	0.01	0.03	0	100.25	Cr-pyrope
Whiskey-1 -gar-dp-7	dk purple	41.32	0.4	18.86	5.27	19.97	4.28	0.36	9.15	0	0.12	0	99.73	Cr-pyrope
Whiskey-1 -gar-dp-8	dk purple	41.01	0.1	18	7.36	18.9	5.94	0.49	8.08	0	0.01	0	99.89	Cr-pyrope
Whiskey-1 -gar-dp-9	dk purple	41.25	0.34	18.17	6.33	20.85	4.24	0.3	7.67	0.01	0.14	0	99.29	Cr-pyrope
Whiskey-1 -gar-dp-10	dk purple	41.53	0.49	19.06	5.38	21.35	3.36	0.38	7.5	0.03	0.14	0	99.21	Cr-pyrope
Whiskey-1 -gar-dp-11	dk purple	40.8	0.46	16.1	8.94	19.18	6.08	0.34	8.09	0.03	0.08	0	100.09	Cr-pyrope
Whiskey-1 -gar-dp-12	dk purple	41.07	0.47	17.32	4.22	20.33	5.45	0.24	9.32	0.04	0.05	0	98.5	Cr-pyrope
Whiskey-1 -gar-dp-13	dk purple	41.77	0.01	21.17	3.38	20.56	4.46	0.48	7.73	0	0.03	0	99.6	Cr-pyrope
Whiskey-1 -gar-dp-14	dk purple	41.2	0.26	18.45	6.7	19.27	5.68	0.35	7.91	0	0.05	0	99.89	Cr-pyrope
Whiskey-1 -gar-dp-15	dk purple	41.68	0.19	20.49	3.95	20.47	4.58	0.37	8.06	0.01	0.05	0	99.85	Cr-pyrope
Whiskey-1 -gar-dp-16	dk purple	41.04	0.08	19.89	5.26	19.83	5.15	0.47	8.05	0.02	0.03	0	99.83	Cr-pyrope
Whiskey-1 -gar-dp-17	dk purple	41.28	0.01	21.02	3.62	19.62	5.15	0.56	8.51	0.03	0.01	0	99.82	Cr-pyrope
Whiskey-1 -gar-dp-18	dk purple	41.33	0.12	19.18	6.14	19.76	5.31	0.4	7.59	0.04	0.03	0	99.91	Cr-pyrope
Whiskey-1 -gar-dp-19	dk purple	41.4	0.01	20.69	4.23	19.36	5.33	0.55	8.62	0.03	0.02	0	100.23	Cr-pyrope
Whiskey-1 -gar-dp-20	dk purple	41.43	0.13	20.52	3.96	20.1	4.79	0.41	8.11	0.04	0.03	0.01	99.54	Cr-pyrope
Whiskey-1 -gar-dp-21	dk purple	41.52	0	20.66	4	19.46	5.17	0.56	8.37	0	0.02	0	99.76	Cr-pyrope
Whiskey-1 -gar-dp-22	dk purple	41.42	0.04	21.11	3.42	19.25	5.55	0.47	8.55	0	0.01	0	99.83	Cr-pyrope
Whiskey-1 -gar-dp-23	dk purple	41.34	0.29	19.66	4.51	20.35	4.19	0.35	9	0.04	0.1	0	99.83	Cr-pyrope
Whiskey-1 -gar-dp-24	dk purple	41.67	0.06	21.04	4.1	20.32	4.62	0.46	7.65	0.02	0.02	0	99.95	Cr-pyrope
Whiskey-1 -gar-dp-25	dk purple	41.38	0.02	20.58	4.21	20	4.67	0.53	8.31	0	0.04	0	99.73	Cr-pyrope
Whiskey-1 -gar-dp-26	dk purple	40.2	0.06	19.68	4.07	15.75	5.52	0.74	13.17	0	0.02	0	99.21	Cr-pyrope
Whiskey-1 -gar-dp-27	dk purple	41.78	0.12	21.44	2.93	20.67	4.56	0.37	7.88	0	0.03	0	99.79	Cr-pyrope
Whiskey-1 -gar-dp-28	dk purple	41.18	0.09	19.86	4.85	19.81	5.08	0.47	8.04	0.01	0.03	0	99.43	Cr-pyrope
Whiskey-1 -gar-dp-29	dk purple	41.25	0.01	19.91	4.91	18.3	6.13	0.49	8.43	0.03	0.01	0	99.48	Cr-pyrope
Whiskey-1 -gar-dp-30	dk purple	41.29	0.03	21.34	3.17	19.04	5.28	0.63	8.9	0.03	0.01	0	99.73	Cr-pyrope
Whiskey-1 -gar-dp-31	dk purple	41.93	0.17	20.28	3.77	21.11	4.79	0.33	7.27	0	0.02	0.01	99.68	Cr-pyrope
Whiskey-1 -gar-p-32	purple	41.38	0	20.54	4.16	19.94	4.78	0.5	7.83	0.03	0.04	0	99.21	Cr-pyrope
Whiskey-1 -gar-p-33	purple	41.36	0	22.19	2.12	18.78	5.53	0.59	8.9	0	0.01	0	99.48	Cr-pyrope
Whiskey-1 -gar-p-34	purple	41.96	0.1	21.35	3.21	20.5	4.53	0.42	8.05	0	0.03	0	100.16	Cr-pyrope
Whiskey-1 -gar-p-35	purple	41.65	0	21.2	3.25	19.51	5.29	0.54	8.07	0.02	0.02	0	99.56	Cr-pyrope
Whiskey-1 -gar-p-36	purple	41.73	0.08	21.49	2.75	20.53	4.58	0.42	7.77	0.03	0.04	0	99.43	Cr-pyrope
Whiskey-1 -gar-p-37	purple	40.95	0	21.33	3.03	18.15	5.26	0.83	10.38	0	0.01	0	99.93	Cr-pyrope
Whiskey-1 -gar-p-38	purple	41.44	0	20.94	3.46	20.25	4.65	0.52	7.91	0.01	0.03	0	99.22	Cr-pyrope
Whiskey-1 -gar-p-39	purple	41.48	0.01	21.42	3.51	19.71	5.2	0.5	8.07	0	0.01	0.01	99.92	Cr-pyrope
Whiskey-1 -gar-p-40	purple	41.4	0.02	21.09	3.75	19.24	5.57	0.55	8.45	0.02	0.01	0	100.09	Cr-pyrope
Whiskey-1 -gar-p-41	purple	41.59	0	21.91	2.59	19.85	4.98	0.38	8.44	0.02	0	0	99.76	Cr-pyrope
Whiskey-1 -gar-p-42	purple	41.77	0.03	21.63	2.75	19.4	5.06	0.48	8.8	0.01	0.01	0	99.96	Cr-pyrope
Whiskey-1 -gar-p-43	purple	41.75	0.09	21.43	2.95	20.39	4.57	0.44	8.12	0.04	0.04	0	99.83	Cr-pyrope
Whiskey-1 -gar-p-44	purple	41.44	0.17	19.65	5.43	20.26	5.17	0.33	7.33	0.01	0.03	0	99.82	Cr-pyrope
Whiskey-1 -gar-p-45	purple	41.5	0.02	20.77	3.98	20.1	4.84	0.53	7.9	0.01	0.03	0	99.67	Cr-pyrope
Whiskey-1 -gar-p-46	purple	41.64	0.19	20.75	3.88	20.53	4.67	0.36	7.67	0	0.03	0	99.73	Cr-pyrope
Whiskey-1 -gar-p-47	purple	41.95	0.01	22.17	2.37	20.59	4.18	0.5	8.27	0	0.02	0	100.06	Cr-pyrope
Whiskey-1 -gar-p-48	purple	41.38	0.18	19.83	4.85	20.2	5.06	0.33	7.45	0.01	0.04	0	99.32	Cr-pyrope
Whiskey-1 -gar-p-49	purple	41.86	0.02	21.61	3.16	20.62	3.81	0.57	8.36	0.06	0.03	0	100.12	Cr-pyrope
Whiskey-1 -gar-p-50	purple	41.46	0.05	21.07	3.56	19.58	5.3	0.53	8.31	0	0.02	0	99.87	Cr-pyrope
Whiskey-1 -gar-p-51	purple	41.49	0	21.07	3.8	20.19	4.78	0.53	7.97	0	0.01	0	99.85	Cr-pyrope
Whiskey-1 -gar-p-52	purple	41.25	0.02	19.83	5.32	18.83	6.17	0.49	8.28	0	0.02	0.01	100.21	Cr-pyrope
Whiskey-1 -gar-p-53	purple	41.53	0.01	21.47	3.08	20.43	3.87	0.6	8.53	0	0.03	0	99.55	Cr-pyrope
Whiskey-1 -gar-p-54	purple	40.73	0	20.22	4.45	18.39	5.99	0.64	8.74	0	0.01	0	99.18	Cr-pyrope
Whiskey-1 -gar-p-55	purple	41.44	0	20.98	4.03	20.27	4.78	0.51	7.94	0	0.02	0	99.96	Cr-pyrope
Whiskey-1 -gar-p-56	purple	41.62	0.04	21.59	3.22	20.33	4.1	0.54	8.7	0	0	0	100.14	Cr-pyrope
Whiskey-1 -gar-p-57	purple	41.31	0.2	20.52	4.15	19.18	5.3	0.52	9.22	0	0.04	0.01	100.44	Cr-pyrope
Whiskey-1 -gar-p-58	purple	41.51	0.01	20.82	3.98	19.88	4.75	0.52	8.15	0	0.02	0	99.62	Cr-pyrope
Whiskey-1 -gar-p-59	purple	41.75	0.06	21.19	3.5	19.32	5.35	0.51	8.63	0	0.01	0	100.33	Cr-pyrope

Sample	colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO*	NiO	Na2O	K2O	Total	I.D.
Whiskey-1 -gar-p-60	purple	40.83	0.23	19.39	5.29	19.38	5.34	0.42	8.27	0.03	0.05	0	99.23	Cr-pyrope
Whiskey-1 -gar-p-61	purple	41.7	0.01	20.47	4.32	20.3	4.78	0.5	7.77	0	0.04	0	99.89	Cr-pyrope
Whiskey-1 -gar-p-62	purple	41.6	0.02	21.27	3.34	18.9	5.49	0.56	8.64	0	0.01	0	99.85	Cr-pyrope
Whiskey-1 -gar-p-63	purple	41.3	0.03	20.74	3.96	19.11	5.68	0.52	8.56	0	0.01	0	99.92	Cr-pyrope
Whiskey-1 -gar-p-64	purple	41.54	0.01	21.79	2.79	19.49	5.12	0.5	8.69	0	0.01	0	99.95	Cr-pyrope
Whiskey-1 -gar-p-65	purple	41.63	0	21.47	3.37	19.41	5.16	0.52	8.56	0.03	0.01	0	100.16	Cr-pyrope
Whiskey-1 -gar-p-66	purple	41.7	0.01	21.23	3.77	20.4	4.57	0.55	7.88	0.01	0.03	0	100.15	Cr-pyrope
Whiskey-1 -gar-p-67	purple	41.65	0	20.57	4.43	19.98	4.62	0.49	8.01	0	0.03	0	99.8	Cr-pyrope
Whiskey-1 -gar-p-68	purple	41.06	0.02	20.74	4.09	18.58	6.06	0.52	8.61	0.01	0	0	99.7	Cr-pyrope
Whiskey-1 -gar-p-69	purple	41.38	0.02	21.44	3.23	19.29	5.21	0.49	8.48	0	0.01	0.01	99.57	Cr-pyrope
Whiskey-1 -gar-p-70	purple	41.34	0	20.61	4.16	19.97	4.63	0.54	7.98	0	0.02	0	99.26	Cr-pyrope
Whiskey-1 -gar-p-71	purple	41.62	0.18	20.33	4.5	20.42	4.8	0.34	7.54	0.02	0.06	0	99.82	Cr-pyrope
Whiskey-1 -gar-p-72	purple	41.5	0.07	21.62	2.4	18.48	5.52	0.46	9.59	0	0	0	99.64	Cr-pyrope
Whiskey-1 -gar-p-73	purple	41.78	0.02	21.04	3.87	20.26	4.67	0.56	7.9	0.01	0.02	0	100.11	Cr-pyrope
Whiskey-1 -gar-p-74	purple	41.18	0.02	21	3.33	19.09	5.29	0.64	8.78	0.01	0.01	0	99.36	Cr-pyrope
Whiskey-1 -gar-p-75	purple	41.35	0.27	17.84	7.21	20.46	4.76	0.28	7.35	0.01	0.07	0	99.6	Cr-pyrope
Whiskey-1 -gar-p-76	purple	41.56	0.01	21.38	3.17	19.37	5.45	0.55	8.47	0	0.02	0	99.98	Cr-pyrope
Whiskey-1 -gar-p-77	purple	41.6	0	21.21	3.44	19.62	5.27	0.48	8.14	0	0.02	0	99.78	Cr-pyrope
Whiskey-1 -gar-p-78	purple	41.45	0.02	21.45	3.4	19.67	5.24	0.51	8.2	0	0.01	0	99.95	Cr-pyrope
Whiskey-1 -gar-p-79	purple	41.63	0	21.16	3.54	19.92	4.57	0.6	8.28	0.07	0.01	0	99.79	Cr-pyrope
Whiskey-1 -gar-p-80	purple	41.13	0.06	20.01	4.44	18.35	6.28	0.49	8.32	0	0.01	0	99.08	Cr-pyrope
Whiskey-1 -gar-p-81	purple	41.46	0.14	20.48	4.19	20.38	4.59	0.45	7.92	0	0.03	0	99.63	Cr-pyrope
Whiskey-1 -gar-p-82	purple	41.49	0.01	20.55	4.52	19.73	4.85	0.5	8.37	0	0.02	0	100.04	Cr-pyrope
Whiskey-1 -gar-p-83	purple	41.42	0.02	21.49	3.23	19.67	4.82	0.55	8.33	0	0.02	0	99.56	Cr-pyrope
Whiskey-1 -gar-p-84	purple	41.32	0.08	20.24	4.62	19.58	5.18	0.52	8.49	0	0.03	0	100.06	Cr-pyrope
Whiskey-1 -gar-p-85	purple	41.54	0.03	21.42	3.19	19.31	5.39	0.56	8.62	0.02	0.02	0.01	100.1	Cr-pyrope
Whiskey-1 -gar-p-86	purple	41.34	0.02	21.23	3.46	19.26	5.36	0.61	8.96	0	0.01	0.01	100.26	Cr-pyrope
Whiskey-1 -gar-p-87	purple	41.56	0	21.15	3.59	20.24	4.52	0.48	8.08	0	0.02	0	99.64	Cr-pyrope
Whiskey-1 -gar-p-88	purple	41.02	0.18	20.2	4.39	18.58	5.4	0.43	9.63	0.04	0.02	0.01	99.89	Cr-pyrope
Whiskey-1 -gar-p-89	purple	41.73	0.01	21.21	3.41	20.36	4.39	0.46	8.15	0	0.03	0	99.75	Cr-pyrope
Whiskey-1 -gar-p-90	purple	41.78	0.04	21.29	3.47	20.55	4.33	0.48	7.83	0	0.02	0	99.79	Cr-pyrope
Whiskey-1 -gar-p-91	purple	41.26	0.01	21.73	2.48	18.83	5.67	0.69	8.63	0	0	0.01	99.3	Cr-pyrope
Whiskey-1 -gar-p-92	purple	41.42	0.02	21.5	3.21	19.29	5.35	0.57	8.51	0.04	0.01	0	99.92	Cr-pyrope
Whiskey-1 -gar-p-93	purple	41.21	0.09	19.4	5.47	19.85	5.06	0.51	7.7	0	0.02	0	99.33	Cr-pyrope
Whiskey-1 -gar-p-94	purple	41.27	0.05	19.9	5.06	19.52	5.35	0.51	8.41	0	0.03	0	100.09	Cr-pyrope
Whiskey-1 -gar-p-95	purple	41.19	0.05	21.2	3.31	18.73	5.7	0.52	8.96	0	0.02	0.01	99.68	Cr-pyrope
Whiskey-1 -gar-p-96	purple	41.26	0.24	18.81	6.18	20	5.2	0.49	7.42	0.05	0.04	0	99.71	Cr-pyrope
Whiskey-1 -gar-p-97	purple	41.64	0	21.06	3.57	20.06	4.74	0.57	7.99	0	0.02	0.01	99.67	Cr-pyrope
Whiskey-1 -gar-p-98	purple	41.17	0.17	19.9	4.65	19.83	5.18	0.39	8.26	0	0.05	0	99.59	Cr-pyrope
Whiskey-1 -gar-p-99	purple	41.61	0.01	20.72	4.16	20.61	4.6	0.46	7.66	0.01	0.02	0	99.86	Cr-pyrope
Whiskey-1 -gar-p-100	purple	41.11	0.04	19.44	5.49	19.76	5.4	0.36	7.36	0.02	0.04	0	99.01	Cr-pyrope
Whiskey-1 -gar-p-101	purple	41.83	0.13	21.03	3.66	20.59	4.55	0.41	7.8	0.04	0.03	0.01	100.07	Cr-pyrope
Whiskey-1 -gar-p-102	purple	41.6	0.01	20.5	4.24	19.82	4.91	0.53	8.01	0.03	0.02	0	99.67	Cr-pyrope
Whiskey-1 -gar-p-103	purple	41.63	0.15	21.08	3.44	20.59	4.69	0.4	7.72	0.07	0.03	0	99.8	Cr-pyrope
Whiskey-1 -gar-p-104	purple	41.48	0	20.96	3.63	20.18	4.47	0.57	8.24	0.03	0.02	0	99.58	Cr-pyrope
Whiskey-1 -gar-p-105	purple	41.41	0.02	20.51	4.34	20.15	4.76	0.46	7.67	0.03	0.03	0	99.38	Cr-pyrope
Whiskey-1 -gar-p-106	purple	41.48	0.02	21.34	3.37	20.04	4.31	0.52	8.3	0	0.02	0	99.41	Cr-pyrope
Whiskey-1 -gar-p-107	purple	41.43	0.05	21.14	4.01	20.1	4.71	0.51	8.36	0	0.04	0	100.35	Cr-pyrope
Whiskey-1 -gar-p-108	purple	41.69	0	20.88	4.04	20.07	4.15	0.54	8.52	0.05	0.01	0	99.97	Cr-pyrope
Whiskey-1 -gar-p-109	purple	41.42	0.01	21.65	2.64	19.39	4.86	0.48	8.83	0.04	0.01	0.01	99.32	Cr-pyrope
Whiskey-1 -gar-p-110	purple	41.41	0.06	20.45	4.02	19.18	4.82	0.59	9.18	0	0.04	0	99.76	Cr-pyrope
Whiskey-1 -gar-p-111	purple	41.78	0.03	21.4	3.51	19.82	4.91	0.52	8.37	0	0.02	0	100.36	Cr-pyrope
Whiskey-1 -gar-p-112	purple	41.71	0	21.25	3.46	20.58	4.35	0.46	7.71	0	0.03	0	99.54	Cr-pyrope
Whiskey-1 -gar-p-113	purple	37.28	0	21.2	0.07	4.54	1.23	1.27	35.16	0.02	0	0	100.77	Almandine
Whiskey-1 -gar-p-114	purple	41.88	0.01	21.42	3.63	20.48	4.42	0.51	8.07	0	0.02	0	100.44	Cr-pyrope
Whiskey-1 -gar-p-115	purple	41.51	0.06	22.21	2.35	19.68	4.89	0.51	9.06	0.02	0.03	0	100.31	Cr-pyrope
Whiskey-1 -gar-p-116	purple	41.37	0.01	21.94	2.29	18.69	5.55	0.66	9.34	0	0	0	99.86	Cr-pyrope
Whiskey-1 -gar-p-117	purple	41.5	0.11	21.08	3.64	20.33	4.64	0.37	8.18	0.03	0.05	0	99.93	Cr-pyrope
Whiskey-1 -gar-p-118	purple	41.85	0.06	22.49	1.67	20.2	4.57	0.46	8.52	0.02	0.04	0	99.88	Pyrope

Sample	colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO*	NiO	Na2O	K2O	Total	I.D.
Whiskey-1 -gar-p-119	purple	41.43	0.12	21.01	3.61	20.15	4.62	0.42	7.99	0	0.02	0	99.38	Cr-pyrope
Whiskey-1 -gar-p-120	purple	41.59	0	21.44	3.1	19.46	5.35	0.47	8.78	0	0.01	0	100.21	Cr-pyrope
Whiskey-1 -gar-p-121	purple	41.19	0	21.19	2.98	17.89	5.33	0.78	10.18	0	0.01	0	99.54	Cr-pyrope
Whiskey-1 -gar-lp-122	lt purple	41.89	0.07	23.19	1.06	20.24	4.41	0.4	8.85	0.02	0.02	0	100.14	Pyrope
Whiskey-1 -gar-lp-123	lt purple	41.83	0	22.63	1.54	19.81	4.44	0.59	9.35	0.05	0.01	0	100.26	Pyrope
Whiskey-1 -gar-lp-124	lt purple	41.71	0.01	22.9	1.22	19.86	4.26	0.47	9.54	0	0.01	0	99.99	Pyrope
Whiskey-1 -gar-lp-125	lt purple	41.82	0.07	22.93	1.07	20.21	4.45	0.39	8.79	0	0.04	0	99.77	Pyrope
Whiskey-1 -gar-lp-126	lt purple	41.91	0.04	23.12	1.07	20.24	4.34	0.44	8.85	0	0.01	0	100.02	Pyrope
Whiskey-1 -gar-lp-127	lt purple	42.15	0.07	23.13	0.99	20.66	4.52	0.4	8.28	0	0.03	0	100.22	Pyrope
Whiskey-1 -gar-lp-128	lt purple	41.68	0.04	22.81	1.2	20	4.2	0.41	8.89	0	0.02	0	99.27	Pyrope
Whiskey-1 -gar-lp-129	lt purple	42	0.11	23.16	0.8	20.29	4.07	0.55	9.53	0	0.03	0	100.55	Pyrope
Whiskey-1 -gar-lp-130	lt purple	41.6	0.05	22.69	1.49	19.75	4.41	0.49	9.51	0.04	0.01	0	100.03	Pyrope
Whiskey-1 -gar-lp-131	lt purple	41.93	0.06	23.03	0.98	20.24	4.39	0.44	8.65	0.01	0.03	0	99.76	Pyrope
Whiskey-1 -gar-lp-132	lt purple	42.07	0.13	23.03	1.12	20.52	4.46	0.47	8.29	0.05	0.03	0	100.17	Pyrope
Whiskey-1 -gar-lp-133	lt purple	42.07	0.07	23.02	1.07	20.26	4.34	0.41	8.71	0.05	0.01	0	100.01	Pyrope
Whiskey-1 -gar-lp-134	lt purple	42.06	0.06	23.12	1.08	20.31	4.4	0.38	8.63	0.01	0.02	0	100.05	Pyrope
Whiskey-1 -gar-lp-135	lt purple	41.55	0.09	22.5	1.78	19.25	4.38	0.63	9.81	0	0.01	0	99.99	Pyrope
Whiskey-1 -gar-lp-136	lt purple	42.08	0.06	22.62	1.54	20.34	4.5	0.43	8.15	0	0.02	0.01	99.75	Pyrope
Whiskey-1 -gar-lp-137	lt purple	41.54	0.14	21.53	3.04	20.5	4.64	0.44	8.1	0.05	0.03	0	100.02	Cr-pyrope
Whiskey-1 -gar-lp-138	lt purple	41.89	0.05	23.03	0.93	20.26	4.44	0.45	8.46	0	0.01	0	99.53	Pyrope
Whiskey-1 -gar-lp-139	lt purple	41.89	0.07	22.79	1.52	20.09	4.56	0.43	8.76	0.04	0.02	0	100.16	Pyrope
Whiskey-1 -gar-lp-140	lt purple	41.84	0.08	22.7	1.49	20.25	4.48	0.45	8.72	0	0.03	0	100.04	Pyrope
Whiskey-1 -gar-lp-141	lt purple	42.14	0.11	22.52	1.9	20.8	4.24	0.35	8.14	0	0.03	0	100.24	Pyrope
Whiskey-1 -gar-lp-142	lt purple	41.84	0.05	22.8	1.31	19.98	4.29	0.4	9.32	0	0.01	0	99.99	Pyrope
Whiskey-1 -gar-lp-143	lt purple	42.03	0.06	23.22	0.9	20.5	4.29	0.41	8.63	0.07	0.03	0	100.13	Pyrope
Whiskey-1 -gar-lp-144	lt purple	41.95	0.18	22.3	1.62	20.24	4.26	0.41	8.9	0	0.04	0	99.89	Pyrope
Whiskey-1 -gar-lp-145	lt purple	41.62	0.09	22.49	1.79	19.28	4.69	0.49	9.67	0.04	0.02	0	100.17	Pyrope
Whiskey-1 -gar-lp-146	lt purple	42.01	0.07	21.7	2.74	20.67	4.46	0.38	8.11	0.03	0.03	0.01	100.2	Cr-pyrope
Whiskey-1 -gar-lp-147	lt purple	41.83	0.06	22.71	1.4	19.71	4.43	0.47	9.87	0	0.01	0	100.5	Pyrope
Whiskey-1 -gar-lp-148	lt purple	41.64	0.07	23.22	0.95	19.84	4.28	0.52	9.58	0.01	0.02	0	100.14	Pyrope
Whiskey-1 -gar-lp-149	lt purple	41.71	0.06	22.45	1.64	19.55	4.42	0.5	9.74	0	0.02	0	100.09	Pyrope
Whiskey-1 -gar-lp-150	lt purple	41.92	0.08	22.95	1.59	20.67	4.04	0.47	8.63	0.03	0.03	0.01	100.42	Pyrope
Whiskey-1 -gar-lp-151	lt purple	42.01	0.02	23.32	0.92	20.84	4.28	0.4	8.46	0	0.02	0	100.27	Pyrope
Whiskey-1 -gar-lp-152	lt purple	42.11	0.08	23.3	0.86	20.52	4.36	0.42	8.51	0.03	0.02	0.01	100.23	Pyrope
Whiskey-1 -gar-lp-153	lt purple	41.86	0.06	22.64	1.48	20.24	4.5	0.42	8.41	0.05	0.03	0	99.68	Pyrope
Whiskey-1 -gar-lp-154	lt purple	41.94	0.09	22.99	1.04	20.11	4.37	0.45	9.05	0.03	0.01	0	100.08	Pyrope
Whiskey-1 -gar-lp-155	lt purple	42.29	0.08	23.07	1.13	20.49	4.49	0.5	8.51	0.02	0.03	0	100.62	Pyrope
Whiskey-1 -gar-lp-156	lt purple	41.94	0.07	23.03	1.26	20.47	4.52	0.43	8.48	0.02	0.03	0	100.23	Pyrope
Whiskey-1 -gar-lp-157	lt purple	41.94	0.05	23.41	0.91	20.37	4.39	0.43	8.71	0.04	0.03	0	100.27	Pyrope
Whiskey-1 -gar-lp-158	lt purple	41.91	0.13	22.37	1.87	20.82	4.27	0.42	8.11	0	0.03	0	99.93	Pyrope
Whiskey-1 -gar-lp-159	lt purple	41.72	0.04	22.87	1.31	20.1	4.37	0.5	8.69	0.01	0.02	0	99.64	Pyrope
Whiskey-1 -gar-lp-160	lt purple	41.89	0.05	22.99	1.08	20.49	4.12	0.44	8.65	0	0.02	0	99.72	Pyrope
Whiskey-1 -gar-lp-161	lt purple	41.88	0.05	22.85	1.38	20.07	4.44	0.36	9.05	0	0.01	0	100.09	Pyrope
Whiskey-1 -gar-lp-162	lt purple	42.01	0.07	23.12	0.92	20.3	4.26	0.42	8.49	0	0.03	0	99.62	Pyrope
Whiskey-1 -gar-lp-163	lt purple	41.79	0.07	22.97	1.2	20.09	4.24	0.43	9.07	0	0.01	0	99.86	Pyrope
Whiskey-1 -gar-lp-164	lt purple	41.94	0.09	23.24	0.74	20.63	4.42	0.38	8.49	0	0.04	0	99.97	Pyrope
Whiskey-1 -gar-lp-165	lt purple	41.86	0.07	23.11	0.96	20.19	4.54	0.4	8.64	0	0.03	0	99.81	Pyrope
Whiskey-1 -gar-lp-166	lt purple	42	0.08	23.19	1.18	20	4.51	0.39	8.84	0	0.02	0	100.22	Pyrope
Whiskey-1 -gar-rg-167	red	42.1	0.4	21.99	1.73	21.02	3.76	0.31	9.23	0.01	0.12	0	100.68	Pyrope
Whiskey-1 -gar-rg-168	red	40.64	0.18	21.16	2.23	16.87	4.92	0.48	13.01	0.02	0.02	0	99.54	Cr-pyrope
Whiskey-1 -gar-rg-169	red	41.72	0.21	20.69	3.06	21.05	4.69	0.29	7.48	0	0.03	0	99.22	Cr-pyrope
Whiskey-1 -gar-rg-170	red	41.84	0.17	21.97	1.9	20.62	4.4	0.34	8.45	0.02	0.05	0	99.76	Pyrope
Whiskey-1 -gar-rg-171	red	41.75	0.4	21.23	2.57	21.68	3.15	0.36	7.97	0	0.1	0	99.22	Cr-pyrope
Whiskey-1 -gar-rg-172	red	41.47	0.33	21.19	2.27	20.34	3.96	0.36	9.41	0.02	0.1	0	99.43	Cr-pyrope
Whiskey-1 -gar-rg-173	red	41.63	0.36	21.26	2.24	20.69	3.77	0.33	9.15	0	0.11	0	99.55	Cr-pyrope
Whiskey-1 -gar-rg-174	red	41.18	0.32	19.85	4.31	19.91	5.06	0.43	7.9	0.01	0.05	0	99.03	Cr-pyrope
Whiskey-1 -gar-rg-175	red	41.19	0.2	22.02	1.92	18.96	4.67	0.46	10.6	0	0.03	0	100.05	Pyrope
Whiskey-1 -gar-rg-176	red	42.02	0.23	20.81	3.22	20.94	4.75	0.25	7.54	0.02	0.03	0	99.81	Cr-pyrope
Whiskey-1 -gar-rg-177	red	41	0.13	20.78	3.07	18.51	4.93	0.43	10.56	0	0.02	0	99.43	Cr-pyrope

Sample	colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO*	NiO	Na2O	K2O	Total	I.D.
Whiskey-1 -gar-rg-178	red	41.57	1.75	21.07	0.68	21.24	3.3	0.33	9.38	0	0.16	0	99.5	Pyrope
Whiskey-1 -gar-rg-179	red	41.14	0.25	20.12	4.3	19.18	4.98	0.54	9.21	0	0.04	0	99.76	Cr-pyrope
Whiskey-1 -gar-rg-180	red	41.9	0.41	21.45	2.22	21.67	3.79	0.31	7.94	0	0.13	0	99.81	Cr-pyrope
Whiskey-1 -gar-rg-181	red	41.55	0.25	20.5	3.9	20.27	4.78	0.34	7.94	0	0.05	0.01	99.58	Cr-pyrope
Whiskey-1 -gar-rg-182	red	41.3	1.69	20.65	1.43	21.12	3.38	0.32	9.72	0.01	0.14	0	99.76	Pyrope
Whiskey-1 -gar-rg-183	red	41.66	1.7	21	0.96	21.61	3.12	0.38	9.39	0.03	0.12	0	99.97	Pyrope
Whiskey-1 -gar-rg-184	red	40.78	0.18	21.37	1.89	17.35	4.67	0.49	13.11	0	0.03	0	99.87	Pyrope
Whiskey-1 -gar-rg-185	red	41.07	0.61	20.77	2.36	19.08	5.11	0.43	9.68	0	0.11	0	99.22	Cr-pyrope
Whiskey-1 -gar-rg-186	red	41.83	0.27	20.2	3.47	21.18	4.29	0.24	7.59	0.05	0.08	0	99.21	Cr-pyrope
Whiskey-1 -gar-rg-187	red	41.8	0.15	21.86	2.29	20.34	4.54	0.36	8.03	0.03	0.04	0	99.43	Cr-pyrope
Whiskey-1 -gar-rg-188	red	41.53	0.27	18.09	3.81	20.32	5.56	0.31	9.16	0.03	0.03	0	99.1	Cr-pyrope
Whiskey-1 -gar-rg-189	red	40.95	0.21	21.03	2.61	18.75	4.54	0.41	11.04	0.02	0.04	0	99.61	Cr-pyrope
Whiskey-1 -gar-rg-190	red	42.02	0.2	20.58	3.09	21.02	4.84	0.29	7.46	0.05	0.03	0	99.57	Cr-pyrope
Whiskey-1 -gar-rg-191	red	41.64	0.14	21.26	3.02	20.29	4.55	0.37	8.23	0.01	0.04	0	99.55	Cr-pyrope
Whiskey-1 -gar-rg-192	red	42.12	0.19	20.87	3.11	21.07	4.75	0.29	7.33	0.02	0.04	0	99.77	Cr-pyrope
Whiskey-1 -gar-rg-193	red	41.37	0.48	19.16	5.05	20.8	3.46	0.38	8.45	0.03	0.12	0	99.3	Cr-pyrope
Whiskey-1 -gar-rg-194	red	41.32	0.34	19.43	5.05	19.89	5.36	0.39	7.82	0.02	0.04	0	99.67	Cr-pyrope
Whiskey-1 -gar-rg-195	red	42.34	0.19	21.16	3.06	21.22	4.77	0.29	7.29	0.03	0.03	0	100.39	Cr-pyrope
Whiskey-1 -gar-rg-196	red	42.13	0.19	20.77	2.97	21.32	4.44	0.33	7.54	0.08	0.06	0	99.83	Cr-pyrope
Whiskey-1 -gar-rg-197	red	40.82	0.84	19.65	3.5	18.75	5.53	0.47	9.9	0	0.11	0	99.58	Cr-pyrope
Whiskey-1 -gar-rg-198	red	42.09	0.2	20.57	3.18	21.08	4.76	0.28	7.46	0.02	0.02	0	99.65	Cr-pyrope
Whiskey-1 -gar-rg-199	red	40.62	0.17	20.62	3.38	18.15	5.03	0.45	10.9	0	0.03	0	99.36	Cr-pyrope
Whiskey-1 -gar-rg-200	red	41.97	0.31	21.39	2.23	20.95	3.57	0.37	8.5	0.05	0.1	0	99.45	Cr-pyrope
Whiskey-1 -gar-rg-201	red	41.5	0.43	19.24	5.02	21.44	3.59	0.26	7.51	0	0.13	0	99.12	Cr-pyrope
Whiskey-1 -gar-rg-202	red	41.6	0.13	21.83	2.29	20.48	4.35	0.3	8.19	0	0.03	0.01	99.21	Cr-pyrope
Whiskey-1 -gar-rg-203	red	41.65	0.11	21.45	2.81	20.54	4.47	0.35	8.12	0	0.03	0	99.54	Cr-pyrope
Whiskey-1 -gar-rg-204	red	41.66	0.17	20.67	4.16	20.09	4.89	0.42	7.89	0	0.03	0.01	99.99	Cr-pyrope
Whiskey-1 -gar-rg-205	red	41.93	0.34	19.03	5.16	22.02	3.42	0.35	7.15	0.05	0.11	0	99.58	Cr-pyrope
Whiskey-1 -gar-rg-206	red	41.58	0.13	20.61	3.16	20.82	4.82	0.26	7.53	0.04	0.07	0	99.01	Cr-pyrope
Whiskey-1 -gar-rg-207	red	41.68	0.33	21.35	1.84	20.15	3.87	0.43	9.47	0	0.1	0	99.24	Pyrope
Whiskey-1 -gar-rg-208	red	41.56	0.34	22.14	0.68	19.25	4.6	0.42	9.95	0.02	0.11	0	99.05	Pyrope
Whiskey-1 -gar-rg-209	red	40.94	0.46	16.81	5.45	20.1	5.56	0.28	9.45	0.05	0.06	0	99.16	Cr-pyrope
Whiskey-1 -gar-rg-210	red	41.62	0.13	21.84	2.43	20.94	4.2	0.43	8	0	0.06	0	99.67	Cr-pyrope
Whiskey-1 -gar-rg-211	red	41.66	0.13	21.4	2.95	20.5	4.58	0.4	8.11	0.01	0.03	0	99.78	Cr-pyrope
Whiskey-1 -gar-rg-212	red	41.27	0.07	21.48	3.25	19.94	4.72	0.43	8.54	0	0.04	0	99.73	Cr-pyrope
Whiskey-1 -gar-rg-213	red	41.85	0.15	21.98	2.2	21.18	3.92	0.48	7.9	0.02	0.04	0.01	99.71	Cr-pyrope
Whiskey-1 -gar-rg-214	red	41.29	0.42	18.26	6.51	21.01	3.79	0.35	7.75	0.05	0.13	0	99.56	Cr-pyrope
Whiskey-1 -gar-rg-215	red	38.25	0.04	21.45	0	7.3	5.06	0.55	27.85	0.03	0.01	0	100.54	Almandine
Whiskey-1 -gar-rg-216	red	40.67	0.11	21.55	1.79	17.2	4.69	0.48	12.58	0.05	0.04	0	99.15	Pyrope
Whiskey-1 -gar-rg-217	red	41.27	0.01	20.99	3.53	20.18	4.42	0.58	8.29	0.03	0.02	0	99.31	Cr-pyrope
Whiskey-1 -gar-rg-218	red	41.88	0.22	20.66	3.05	21.05	4.71	0.34	7.44	0.01	0.03	0	99.38	Cr-pyrope
Whiskey-1 -gar-rg-219	red	41.46	0.16	21.48	2.53	20.4	4.39	0.39	8.26	0.03	0.04	0.01	99.15	Cr-pyrope
Whiskey-1 -gar-rg-220	red	41.46	0.25	21.3	2.64	20.78	4.05	0.36	8.68	0.05	0.05	0	99.62	Cr-pyrope
Whiskey-1 -gar-rg-221	red	41.73	0.44	19.19	5.47	21.73	3.29	0.33	7.5	0	0.14	0.01	99.83	Cr-pyrope
Whiskey-1 -gar-rg-222	red	41.82	0.21	20.8	2.97	21.03	4.84	0.33	7.21	0.04	0.02	0.01	99.28	Cr-pyrope
Whiskey-1 -gar-rg-223	red	40.26	0.05	19.9	4.31	15.8	5.61	0.76	13.38	0	0.03	0	100.1	Cr-pyrope
Whiskey-1 -gar-rg-224	red	42.08	0.29	20.68	1.52	21.5	4.92	0.24	8.57	0.02	0.03	0.01	99.86	Pyrope
Whiskey-1 -gar-rg-225	red	41.45	0.15	21.58	2.78	20.33	4.42	0.41	8.38	0	0.04	0.01	99.55	Cr-pyrope
Whiskey-1 -gar-rg-226	red	41.91	0.48	21.19	1.85	21.37	4.16	0.2	7.82	0	0.11	0	99.1	Pyrope
Whiskey-1 -gar-rg-227	red	41.47	0.23	20.33	4.07	20.07	4.94	0.4	8.11	0	0.05	0	99.66	Cr-pyrope
Whiskey-1 -gar-rg-228	red	41.38	0.44	19.31	5.08	20.66	3.87	0.38	8.21	0	0.15	0	99.46	Cr-pyrope
Whiskey-1 -gar-og-229	orange	41.32	0.16	22.59	1.18	19.04	4.29	0.45	10.73	0	0.03	0	99.8	Pyrope
Whiskey-1 -gar-og-230	orange	42.27	0.22	23.26	0.66	21.58	3.88	0.39	7.43	0.01	0.06	0	99.76	Pyrope
Whiskey-1 -gar-og-231	orange	41.15	0.51	21.9	0.81	18.33	4.49	0.44	11.37	0	0.11	0.01	99.12	Pyrope
Whiskey-1 -gar-og-232	orange	38.64	0.06	21.52	0.05	7.54	9.9	0.52	21.17	0	0.02	0	99.41	Almandine
Whiskey-1 -gar-og-233	orange	41.2	0.5	21.87	0.77	18.84	4.46	0.5	11.48	0	0.11	0	99.73	Pyrope
Whiskey-1 -gar-og-234	orange	38.57	0.11	21.47	0.08	6.6	10.47	0.53	21.92	0	0.04	0	99.81	Almandine
Whiskey-1 -gar-og-235	orange	41.45	0.14	22.77	0.69	19.22	4.13	0.46	10.64	0	0.03	0	99.52	Pyrope
Whiskey-1 -gar-og-236	orange	41.3	0.58	21.91	1.04	19.1	3.98	0.45	11.22	0.01	0.15	0.01	99.76	Pyrope

Sample	colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO*	NiO	Na2O	K2O	Total	I.D.
Whiskey-1 -gar-og-237	orange	41.62	1.21	21.38	0.88	21.64	3.33	0.34	9	0.04	0.11	0	99.56	Pyrope
Whiskey-1 -gar-og-238	orange	41.45	0.5	22.19	0.85	19.38	3.57	0.46	11.03	0.04	0.12	0	99.59	Pyrope
Whiskey-1 -gar-og-239	orange	40.74	0.42	22	0.34	16.13	6.03	0.28	13.83	0	0.1	0	99.86	Pyrope
Whiskey-1 -gar-og-240	orange	42.09	0.28	21.69	1.33	21.36	3.93	0.29	8.34	0	0.13	0	99.44	Pyrope
Whiskey-1 -gar-og-241	orange	40.47	0	0	0.05	48.79	0.05	0.12	9.94	0.42	0.07	0	99.92	Olivine
Whiskey-1 -gar-og-242	orange	42.01	0.52	21.72	0.76	20.59	4.01	0.19	10.04	0.06	0.08	0	99.99	Pyrope
Whiskey-1 -gar-og-243	orange	41.23	0.21	22.81	0.25	18.33	4.1	0.44	12.51	0	0.05	0.01	99.94	Pyrope
Whiskey-1 -gar-og-244	orange	38.5	0.06	21.56	0.05	6.33	10.44	0.54	22.43	0.03	0.04	0	99.98	Almandine
Whiskey-1 -gar-og-245	orange	38.4	0.12	21.38	0.04	6.6	10.32	0.6	22.28	0.02	0.03	0	99.8	Almandine
Whiskey-1 -gar-og-246	orange	41.87	0.51	21.3	0.86	20.6	4.03	0.23	9.92	0.06	0.06	0	99.44	Pyrope
Whiskey-1 -gar-og-247	orange	41.87	0.18	22.53	1.19	20.76	3.84	0.39	8.7	0.03	0.06	0	99.54	Pyrope
Whiskey-1 -gar-og-248	orange	39.22	0.04	21.82	0.09	7.14	12.11	0.41	19.37	0.02	0.01	0	100.23	Almandine
Whiskey-1 -gar-og-249	orange	41.32	0.39	22.24	0.77	19.48	4.04	0.49	10.84	0	0.1	0	99.67	Pyrope
Whiskey-1 -gar-og-250	orange	38.48	0	21.53	0	7.19	4.9	0.58	27.78	0	0.01	0	100.47	Almandine
Whiskey-1 -gar-og-251	orange	41.69	0.06	23.24	0.92	20.58	4.5	0.46	8.37	0.01	0.02	0	99.85	Pyrope
Whiskey-1 -gar-og-252	orange	41.43	0.43	22	0.76	18.65	4.32	0.41	11.55	0	0.11	0	99.66	Pyrope
Whiskey-1 -gar-og-253	orange	41.13	0.45	22.23	0.31	16.1	5.76	0.26	13.89	0	0.12	0	100.25	Pyrope
Whiskey-1 -gar-og-254	orange	40.56	0.29	22.34	0.21	14.72	9.17	0.3	11.56	0	0.05	0	99.2	Pyrope
Whiskey-1 -gar-og-255	orange	38.7	0.05	22.02	0.1	7.02	12.09	0.4	19.35	0.02	0.02	0	99.77	Almandine
Whiskey-1 -gar-og-256	orange	41.87	0.16	22.87	1.03	20.3	3.93	0.43	9.23	0.02	0.05	0.01	99.91	Pyrope
Whiskey-1 -gar-og-257	orange	41.57	0.84	22.06	0.82	21.03	3.21	0.3	9.91	0	0.1	0	99.84	Pyrope
Whiskey-1 -gar-og-258	orange	39.33	0.02	22.06	0.16	10.63	5.02	0.59	23.17	0.03	0.03	0	101.04	Almandine
Whiskey-1 -gar-og-259	orange	41.46	0.58	22.1	0.69	19.18	3.73	0.52	11.28	0	0.15	0	99.7	Pyrope
Whiskey-1 -gar-og-260	orange	41.77	0.45	22.14	0.67	19.86	3.78	0.2	10.71	0.03	0.08	0	99.68	Pyrope
Whiskey-1 -gar-og-261	orange	41.69	0.72	21.83	0.93	21.08	3.96	0.3	8.64	0.03	0.08	0.01	99.27	Pyrope
Whiskey-1 -gar-og-262	orange	39.37	0.07	22.21	0.08	10.08	9.96	0.44	17.47	0	0.01	0	99.68	Almandine
Whiskey-1 -gar-og-263	orange	41.33	0.58	21.9	1.03	19.07	3.83	0.49	11.24	0	0.15	0	99.62	Pyrope
Whiskey-1 -gar-og-264	orange	38.48	0.07	22.03	0.05	7.38	8.86	0.43	22.86	0.01	0.04	0	100.21	Almandine
Whiskey-1 -gar-og-265	orange	41.49	0.39	22.77	0.59	18.65	4.52	0.5	11.28	0	0.09	0	100.28	Pyrope

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Whiskey-1 -oxi-76	0.02	0.19	0.01	8.79	58.96	0.34	11.19	0	0.2	19.54	0.12	0.1	99.46	3.3	16.57	99.79
Whiskey-1 -oxi-77	0	0.21	0	9.94	56.1	0.34	10.07	0.01	0.41	22.79	0.1	0.17	100.14	4.86	18.42	100.63
Whiskey-1 -oxi-78	0.01	0.44	0	7.33	58.86	0.27	10.18	0.01	0.48	21.71	0.1	0.12	99.51	4.44	17.72	99.96
Whiskey-1 -oxi-79	0.01	0.41	0.03	8.19	55.48	0.34	9.4	0.02	0.52	25.01	0.08	0.18	99.65	6.51	19.15	100.31
Whiskey-1 -oxi-80	0.02	0.28	0.02	6.92	56.88	0.22	8.46	0	0.35	26.48	0.12	0.12	99.86	6.8	20.36	100.55
Whiskey-1 -oxi-81	0.03	0.29	0	6.67	54.76	0.33	8	0	0.47	28.22	0.07	0.18	99.03	8.2	20.84	99.85
Whiskey-1 -oxi-82	0.01	1.14	0.03	6.5	53.36	0.28	8.83	0.01	0.3	28.43	0.12	0.14	99.16	8.9	20.43	100.05
Whiskey-1 -oxi-83	0.02	0.57	0.04	9.04	55.29	0.26	9.97	0.02	0.28	24.18	0.08	0.16	99.9	6.02	18.76	100.5
Whiskey-1 -oxi-84	0.01	0.7	0	6.95	55.6	0.14	9.35	0	0.4	26.28	0.09	0.11	99.64	7.92	19.15	100.43
Whiskey-1 -oxi-85	0.01	0.09	0.01	11	55.41	0.36	10.5	0	0.37	21.37	0.09	0.15	99.34	4.1	17.68	99.75
Whiskey-1 -oxi-86	0.04	0.62	0	8.99	55.77	0.17	10.23	0	0.3	23.05	0.07	0.13	99.37	5.47	18.12	99.92
Whiskey-1 -oxi-87	0	2.78	0.04	0.66	55.22	0.65	7.39	0	0.59	31.77	0.16	0.17	99.43	9.17	23.52	100.35
Whiskey-1 -oxi-88	0.03	0.15	0	8.68	58.89	0.32	11.18	0	0.23	19.67	0.15	0.11	99.4	3.62	16.41	99.76
Whiskey-1 -oxi-89	0	0.4	0.01	10.09	54.46	0.16	9.34	0	0.42	24.5	0.08	0.17	99.62	5.75	19.32	100.2
Whiskey-1 -oxi-90	0.01	0.42	0.04	7.79	55.83	0.31	9.32	0.01	0.4	25.5	0.11	0.15	99.88	6.8	19.38	100.57
Whiskey-1 -oxi-91	0	0.11	0.03	10.14	54.61	0.34	9.81	0	0.41	24.02	0.07	0.16	99.69	5.91	18.71	100.28
Whiskey-1 -oxi-92	0	2.23	0	1.35	55.66	0.58	8.22	0	0.39	29.88	0.15	0.15	98.61	9.13	21.66	99.52
Whiskey-1 -oxi-93	0.02	0.74	0	7.5	54.96	0.33	9.77	0	0.37	25.36	0.11	0.13	99.29	7.29	18.81	100.02
Whiskey-1 -oxi-94	0	0.66	0	7.94	55.14	0.17	9.53	0	0.38	25.25	0.12	0.1	99.3	7.04	18.92	100
Whiskey-1 -oxi-95	0	0.39	0	10.64	55.89	0.4	10.83	0.01	0.29	21.07	0.1	0.15	99.77	3.85	17.61	100.16
Whiskey-1 -oxi-96	0.02	0.37	0.02	9.88	55.27	0.31	10.43	0	0.36	22.9	0.1	0.16	99.81	5.49	17.96	100.36
Whiskey-1 -oxi-97	0.02	0.07	0	13.95	54.31	0.18	11.4	0	0.18	20.04	0.09	0.17	100.42	3.4	16.98	100.76
Whiskey-1 -oxi-98	0.01	0.25	0.01	10.4	55.54	0.28	10.78	0	0.49	21.91	0.11	0.17	99.94	5.22	17.21	100.47
Whiskey-1 -oxi-99	0.02	0.12	0	11.76	55.61	0.36	11.09	0.01	0.24	20.61	0.11	0.12	100.04	3.71	17.27	100.41
Whiskey-1 -oxi-101	0.01	0.14	0	7.64	55.38	0.26	8.74	0	0.41	27.06	0.08	0.22	99.95	7.99	19.87	100.75
Whiskey-1 -oxi-102	0.02	0.08	0.02	11.03	56.3	0.31	11.07	0	0.26	20.62	0.09	0.11	99.92	3.94	17.07	100.31
Whiskey-1 -oxi-103	0.01	1.89	0.06	2.94	51.93	0.38	7.17	0	0.36	33.88	0.16	0.17	98.95	11.96	23.13	100.15
Whiskey-1 -oxi-104	0	0.14	0.01	13.27	53	0.44	10.54	0	0.32	21.81	0.1	0.2	99.82	3.94	18.26	100.22
Whiskey-1 -oxi-105	0.01	3.28	0.04	1.18	49.3	0.62	6.43	0	0.4	37.41	0.18	0.12	98.95	13.12	25.6	100.26
Whiskey-1 -oxi-106	0	0.55	0	6.63	55	0.29	8.52	0	0.28	27.63	0.12	0.17	99.19	8.07	20.37	100
Whiskey-1 -oxi-107	0.01	2.95	0	0.66	52.91	0.74	6.9	0.01	0.49	33.91	0.16	0.14	98.87	10.49	24.47	99.92
Whiskey-1 -oxi-108	0	0.32	0	16.04	48.74	0.27	10.33	0	0.38	23.11	0.1	0.22	99.52	4.83	18.77	100.01
Whiskey-1 -oxi-109	0	2.11	0.03	4.5	54.67	0.38	9.17	0.01	0.34	28.02	0.18	0.11	99.52	8.22	20.62	100.34
Whiskey-1 -oxi-110	0.01	0.57	0.03	8.29	54.43	0.33	9.62	0	0.44	25.33	0.14	0.13	99.33	7.08	18.96	100.03
Whiskey-1 -oxi-111	0	0.26	0	7.06	56.14	0.3	9.5	0	0.42	25.13	0.11	0.14	99.05	7.34	18.52	99.79
Whiskey-1 -oxi-112	0	0.07	0.04	11.64	56.34	0.2	11.37	0	0.19	20.2	0.09	0.12	100.25	3.9	16.69	100.64
Whiskey-1 -oxi-113	0	1.02	0.05	5.09	57.15	0.24	8.62	0	0.16	26.14	0.11	0.16	98.73	6.47	20.32	99.38
Whiskey-1 -oxi-114	0.02	0.63	0	7.21	50.68	0.35	7.71	0	0.47	30.9	0.12	0.15	98.23	10.5	21.44	99.29
Whiskey-1 -oxi-115	0.01	0.18	0	9.36	55.95	0.33	10.05	0	0.32	22.98	0.06	0.16	99.39	5.27	18.24	99.91
Whiskey-1 -oxi-116	0.38	1.05	0	16.52	47.53	0.17	14.31	0.01	0.14	19	0.23	0.05	99.38	5.57	13.99	99.94
Whiskey-1 -oxi-118	0.01	1.28	0.02	5.51	52.37	0.36	7.95	0	0.48	30.9	0.15	0.18	99.22	10.27	21.65	100.25
Whiskey-1 -oxi-119	0	2.94	0	1.5	51.68	0.47	7.24	0	0.34	34.73	0.17	0.15	99.23	12	23.94	100.43
Whiskey-1 -oxi-120	0.02	0.41	0	9.23	58.47	0.33	11.59	0	0.28	19.32	0.1	0.11	99.86	3.42	16.24	100.2
Whiskey-1 -oxi-121	0	0.58	0.03	8.43	56.45	0.29	10.36	0	0.3	23.09	0.09	0.12	99.76	5.56	18.09	100.31
Whiskey-1 -oxi-122	0.01	0	0	11.11	54.91	0.45	10.32	0	0.18	22.16	0.06	0.16	99.36	4.35	18.24	99.79
Whiskey-1 -oxi-123	0.02	0.5	0	8.78	58.39	0.19	11.13	0	0.29	19.56	0.11	0.09	99.06	3.44	16.46	99.41
Whiskey-1 -oxi-124	0.01	0.34	0.01	8.85	56.5	0.29	9.45	0	0.4	23.79	0.08	0.15	99.87	5.06	19.24	100.38
Whiskey-1 -oxi-125	0.02	0.99	0	7.44	53.79	0.32	9.58	0	0.44	26.78	0.16	0.18	99.7	8.32	19.29	100.53
Whiskey-1 -oxi-126	0.01	0.07	0	9.2	55.9	0.37	9.65	0.01	0.37	24.13	0.09	0.12	99.92	5.77	18.93	100.5
Whiskey-1 -oxi-127	0.01	1.01	0	7.39	54.15	0.27	9.31	0	0.49	26.74	0.17	0.13	99.68	7.94	19.6	100.48
Whiskey-1 -oxi-128	0.04	1.49	0	2.91	53.3	0.45	7.97	0	0.54	31.42	0.17	0.12	98.4	11.24	21.3	99.53
Whiskey-1 -oxi-129	0.02	0.16	0	9.93	54.67	0.26	9.72	0	0.45	24.35	0.1	0.15	99.81	6.26	18.72	100.44
Whiskey-1 -oxi-130	0	2.37	0.02	1.14	57.24	0.46	7.85	0.01	0.41	29.6	0.14	0.14	99.37	8.03	22.37	100.18
Whiskey-1 -oxi-131	0	3.12	0.02	1.22	52.28	0.62	7.36	0	0.44	34.42	0.16	0.12	99.76	11.34	24.22	100.9
Whiskey-1 -oxi-132	0.05	0.17	0	9.13	59.08	0.31	11.47	0	0.08	19.61	0.11	0.06	100.06	3.45	16.5	100.41
Whiskey-1 -oxi-133	0.01	0.44	0	9.06	56.31	0.21	9.55	0	0.26	23.54	0.11	0.15	99.65	4.94	19.1	100.14
Whiskey-1 -oxi-134	0	2.27	0.03	0.62	56.11	0.71	7.43	0	0.41	31.59	0.15	0.15	99.46	9.24	23.28	100.38
Whiskey-1 -oxi-135	0	1.59	0	4.33	57.16	0.33	7.99	0	0.41	27.42	0.13	0.19	99.54	6.33	21.72	100.17
Whiskey-1 -oxi-136	0	1.72	0.01	1.36	59.57	0.32	8.68	0.01	0.28	27.07	0.14	0.09	99.25	7.37	20.44	99.99

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Whiskey-1 -oxi-137	0.01	0.31	0.03	10.85	56.14	0.21	11.03	0	0.37	21.27	0.08	0.11	100.43	4.5	17.23	100.88
Whiskey-1 -oxi-138	0	1.23	0.02	3.42	56.86	0.27	8.59	0	0.43	28.34	0.14	0.11	99.4	8.91	20.32	100.29
Whiskey-1 -oxi-139	0	1.23	0.05	1.08	61.15	0.34	8.17	0	0.49	27.02	0.1	0.12	99.74	6.95	20.76	100.44
Whiskey-1 -oxi-140	0	0	0.08	13.64	52.85	0.45	11.04	0.02	0.2	21.75	0.1	0.14	100.28	4.36	17.83	100.72
Whiskey-1 -oxi-141	0.03	0.13	0.03	11.28	55.58	0.39	10.84	0.01	0.27	20.82	0.09	0.16	99.62	3.69	17.5	99.99
Whiskey-1 -oxi-142	0.03	0.49	0.02	8.87	58.37	0.28	11.37	0.01	0.34	19.32	0.1	0.13	99.32	3.34	16.32	99.66
Whiskey-1 -oxi-143	0.01	0.21	0	7.55	55.45	0.17	8.87	0	0.38	26.48	0.07	0.15	99.34	7.75	19.51	100.12
Whiskey-1 -oxi-144	0.02	0.57	0	6.99	55.74	0.3	9.5	0.01	0.3	26.06	0.12	0.17	99.76	7.71	19.12	100.53
Whiskey-1 -oxi-145	0.02	0.7	0	6.89	49.92	0.38	6.95	0.01	0.59	33.51	0.12	0.22	99.32	11.87	22.83	100.51
Whiskey-1 -oxi-146	0.02	2.61	0	0.92	54.49	0.49	6.48	0	0.46	33.59	0.12	0.14	99.33	9.89	24.69	100.32
Whiskey-1 -oxi-147	0.04	0.86	0	4.34	61.52	0.23	10.67	0	0.53	21.58	0.13	0.07	99.96	5.14	16.96	100.48
Whiskey-1 -oxi-148	0.01	0.05	0.02	11.49	55.07	0.44	10.64	0.02	0.29	21.91	0.06	0.14	100.14	4.37	17.99	100.58
Whiskey-1 -oxi-149	0	0.03	0	10.66	55.14	0.38	10.07	0	0.35	22.73	0.11	0.17	99.63	4.91	18.32	100.13
Whiskey-1 -oxi-150	0.01	1.4	0.02	5.36	51.55	0.49	7.82	0	0.68	31.66	0.11	0.12	99.22	10.69	22.04	100.29

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
Whiskey-1 -oxi-1	0.01	51.51	0.08	0.11	2.34	0.03	10.26	0	0.35	33.88	0.12	0	98.69	6.86	27.7	99.38	56.465	37.252	6.283	100
Whiskey-1 -oxi-2	0.03	52.28	0.06	0.22	2.55	0	10.57	0.01	0.32	32.88	0.13	0.02	99.05	5.63	27.81	99.62	56.529	38.304	5.167	100
Whiskey-1 -oxi-3	0.01	51.24	0.16	0.12	3.91	0.01	10.98	0	0.38	31.53	0.14	0.03	98.52	5.96	26.16	99.12	54.046	40.414	5.540	100
Whiskey-1 -oxi-4	0	51.12	0.12	0.16	2.23	0.04	9.9	0	0.37	34.75	0.1	0.02	98.8	7.46	28.04	99.55	57.170	35.979	6.850	100
Whiskey-1 -oxi-5	0	51	0.14	0.08	2.17	0	9.58	0.01	0.38	35.32	0.09	0.01	98.77	7.64	28.44	99.53	58.111	34.871	7.018	100
Whiskey-1 -oxi-6	0	52.09	0.09	0.12	2.5	0	10.67	0.02	0.31	33.42	0.15	0.01	99.39	6.66	27.43	100.05	55.486	38.458	6.055	100
Whiskey-1 -oxi-7	0.02	51.51	0.05	0.08	2.32	0	9.95	0.01	0.38	34.31	0.06	0.02	98.7	6.81	28.18	99.38	57.560	36.198	6.243	100
Whiskey-1 -oxi-8	0	51.37	0.09	0.1	2.26	0.05	9.91	0.01	0.36	34.12	0.11	0	98.38	6.53	28.24	99.04	57.804	36.163	6.033	100
Whiskey-1 -oxi-9	0	48.67	0.18	0.03	2.89	0.2	8.53	0	0.39	37.67	0.09	0.01	98.67	10.09	28.59	99.68	59.150	31.452	9.398	100
Whiskey-1 -oxi-10	0	50.95	0.37	0	3.57	0	9.83	0	0.38	33.64	0.12	0.01	98.87	6.05	28.2	99.48	58.206	36.168	5.626	100
Whiskey-1 -oxi-11	0.03	52.05	0	0.13	2.46	0	10.48	0.01	0.33	33.46	0.13	0.04	99.11	6.44	27.66	99.75	56.178	37.931	5.891	100
Whiskey-1 -oxi-12	0.02	51.57	0.08	0.14	2.55	0.04	10.71	0.01	0.3	32.75	0.14	0.03	98.31	6.39	27	98.95	55.125	38.987	5.888	100
Whiskey-1 -oxi-13	0.01	51.57	0.18	0.13	2.38	0.21	10.39	0	0.32	33.02	0.12	0.01	98.34	5.64	27.95	98.9	57.040	37.786	5.174	100
Whiskey-1 -oxi-14	0.03	51.78	0.05	0.13	2.41	0.14	10.6	0	0.39	32.94	0.11	0.02	98.59	6.09	27.47	99.2	55.949	38.477	5.575	100
Whiskey-1 -oxi-15	0.02	51.49	0.11	0.17	2.64	0.08	10.53	0	0.33	33.31	0.13	0.02	98.82	6.66	27.32	99.49	55.680	38.229	6.091	100
Whiskey-1 -oxi-16	0.01	52.05	0.11	0.18	2.65	0	10.54	0	0.28	32.92	0.13	0	98.89	5.76	27.74	99.46	56.492	38.241	5.267	100
Whiskey-1 -oxi-17	0	50.39	0.63	0	3.22	0	9.77	0	0.3	34.32	0.13	0.05	98.79	6.89	28.12	99.48	57.811	35.804	6.384	100
Whiskey-1 -oxi-18	0.01	52.15	0.06	0.1	2.48	0.09	10.47	0.02	0.36	33.15	0.16	0.05	99.11	5.9	27.85	99.7	56.683	37.947	5.370	100
Whiskey-1 -oxi-19	0.01	46.86	0.27	0.05	3.13	0.06	7.43	0.01	0.37	40.24	0.11	0.01	98.55	12.71	28.8	99.82	60.294	27.724	11.982	100
Whiskey-1 -oxi-20	0	52.01	0.09	0.18	2.51	0.03	10.6	0.01	0.24	33.27	0.14	0	99.07	6.25	27.64	99.7	56.007	38.282	5.710	100
Whiskey-1 -oxi-21	0	51.18	0.14	0.12	2.26	0.01	10.36	0	0.36	34.82	0.09	0	99.33	8.38	27.28	100.17	55.096	37.288	7.616	100
Whiskey-1 -oxi-22	0.01	51.81	0.05	0.08	2.38	0.14	9.99	0.01	0.27	34.29	0.06	0	99.09	6.2	28.71	99.71	58.263	36.100	5.636	100
Whiskey-1 -oxi-23	0.02	51.66	0.07	0.08	2.34	0	10.16	0.01	0.39	34.12	0.07	0.03	98.94	6.87	27.94	99.63	56.876	36.844	6.280	100
Whiskey-1 -oxi-24	0	50.91	0.2	0.13	2.91	0.1	11.34	0.01	0.33	32.84	0.21	0.03	98.99	8.29	25.38	99.83	51.450	40.978	7.572	100
Whiskey-1 -oxi-25	0.01	52.11	0.07	0.18	2.58	0	10.8	0.03	0.32	33.18	0.11	0.03	99.41	6.64	27.2	100.08	55.032	38.928	6.041	100
Whiskey-1 -oxi-26	0.01	45.98	0.3	0.13	3.23	0.37	8.53	0	0.28	38.95	0.08	0.02	97.88	13.65	26.67	99.25	55.580	31.654	12.766	100
Whiskey-1 -oxi-27	0.01	51.64	0.05	0.17	2.81	0.05	10.74	0.02	0.38	32.76	0.14	0	98.78	6.52	26.89	99.44	54.931	39.084	5.985	100
Whiskey-1 -oxi-28	0	47.34	0.24	0.03	2.77	0.07	7.07	0.01	0.51	40.58	0.05	0	98.66	12.01	29.77	99.86	62.307	26.373	11.320	100
Whiskey-1 -oxi-29	0	50.94	0.2	0.12	3.01	0	11	0	0.29	32.75	0.17	0.02	98.5	7.58	25.93	99.26	53.007	40.044	6.949	100
Whiskey-1 -oxi-30	0	51.33	0.08	0.13	2.12	0.06	9.74	0	0.36	34.93	0.12	0.02	98.89	7.17	28.47	99.6	58.057	35.375	6.567	100
Whiskey-1 -oxi-31	0	51.52	0.01	0.08	2.27	0	10.12	0	0.4	34.31	0.08	0.02	98.81	7.23	27.8	99.54	56.642	36.735	6.624	100
Whiskey-1 -oxi-32	0	51.66	0.15	0.14	2.47	0.27	10.7	0.01	0.3	32.88	0.13	0.02	98.73	5.93	27.54	99.32	55.855	38.703	5.443	100
Whiskey-1 -oxi-33	0.01	52.03	0.01	0.16	2.51	0	10.91	0	0.33	32.83	0.16	0.02	98.97	6.63	26.87	99.63	54.503	39.445	6.053	100
Whiskey-1 -oxi-34	0.03	51.97	0.11	0.18	2.59	0	10.82	0	0.3	32.74	0.17	0.02	98.93	6.24	27.13	99.56	55.113	39.179	5.707	100
Whiskey-1 -oxi-35	0.02	52.16	0.11	0.16	2.38	0	10.15	0	0.36	34.28	0.08	0	99.7	6.39	28.53	100.34	57.629	36.550	5.821	100
Whiskey-1 -oxi-36	0.01	50.9	0.09	0.1	2.31	0	9.76	0.01	0.31	35.02	0.07	0	98.58	7.7	28.1	99.35	57.395	35.531	7.074	100
Whiskey-1 -oxi-37	0.03	47.77	0.19	0.01	2.94	0.18	9.4	0.03	0.3	37.38	0.08	0.05	98.35	12.36	26.26	99.59	54.079	34.484	11.437	100
Whiskey-1 -oxi-38	0.02	51.78	0.16	0.14	2.28	0	9.87	0.02	0.33	34.1	0.1	0.01	98.82	6	28.7	99.42	58.595	35.901	5.504	100
Whiskey-1 -oxi-39	0.01	51.59	0.06	0.06	2.52	0.27	10.41	0	0.42	33.51	0.13	0.04	99.01	6.39	27.76	99.65	56.438	37.716	5.846	100
Whiskey-1 -oxi-40	0.01	51.65	0.13	0.17	2.31	0	10.47	0.01	0.35	33.62	0.12	0	98.82	6.84	27.46	99.5	55.814	37.924	6.262	100
Whiskey-1 -oxi-41	0	51.34	0.12	0.1	2.62	0	9.91	0	0.33	34.34	0.11	0	98.87	6.83	28.2	99.56	57.630	36.093	6.277	100
Whiskey-1 -oxi-42	0.02	51.7	0	0.14	2.58	0	10.49	0	0.28	33.04	0.16	0.01	98.42	6.3	27.37	99.05	55.982	38.226	5.792	100
Whiskey-1 -oxi-43	0.01	51.88	0.07	0.23	2.61	0	10.49	0	0.24	33.38	0.11	0.03	99.05	6.34	27.68	99.68	56.222	37.979	5.798	100
Whiskey-1 -oxi-44	0	51.39	0.09	0.21	2.78	0	10.29	0	0.36	33.54	0.14	0.03	98.82	6.77	27.45	99.5	56.209	37.552	6.239	100
Whiskey-1 -oxi-45	0.01	53.33	0.08	0.2	3.24	0	12.1	0.02	0.22	31.31	0.17	0.02	100.71	5.83	26.07	101.3	51.869	42.911	5.220	100
Whiskey-1 -oxi-46	0.02	51.29	0.09	0.06	2.16	0.18	9.83	0.01	0.35	35.04	0.08	0	99.11	7.19	28.57	99.83	57.921	35.517	6.562	100
Whiskey-1 -oxi-47	0.02	52.12	0.1	0.14	2.54	0	10.55	0	0.3	33.13	0.17	0.01	99.09	6.03	27.71	99.69	56.320	38.190	5.490	100
Whiskey-1 -oxi-48	0.02	50.89	0.11	0.1	2.17	0	9.54	0.01	0.35	35.64	0.07	0.03	98.92	7.97	28.47	99.72	57.999	34.664	7.336	100
Whiskey-1 -oxi-49	0	51.28	0.15	0.17	2.22	0.07	9.9	0	0.37	34.86	0.07	0.01	99.1	7.31	28.28	99.84	57.486	35.844	6.671	100
Whiskey-1 -oxi-50	0.01	51.33	0.17	0.11	2.25	0	9.47	0.02	0.41	35.43	0.07	0	99.26	7.17	28.98	99.98	59.032	34.387	6.581	100
Whiskey-1 -oxi-51	0	51.78	0.04	0.17	2.63	0	10.43	0	0.32	33.53	0.1	0.01	99.01	6.59	27.6	99.67	56.140	37.818	6.042	100
Whiskey-1 -oxi-52	0.01	50.28	0.14	0.11	2.87	0.07	10.84	0.01	0.28	33.87	0.13	0	98.6	9.01	25.76	99.51	52.415	39.320	8.264	100
Whiskey-1 -oxi-53	0.03	50.66	0.12	0.09	2.37	0.07	9.37	0	0.36	35.68	0.05	0	98.78	7.75	28.71	99.56	58.739	34.147	7.115	100
Whiskey-1 -oxi-54	0.02	49.57	0.14	0.11	2.02	0.1	8.53	0.01	0.41	37.76	0.06	0.03	98.76	9.51	29.21	99.72	59.978	31.226	8.796	100
Whiskey-1 -oxi-55	0	52.04	0.07	0.13	2.42	0	10.64	0.01	0.35	33.29	0.15	0	99.1	6.55	27.4	99.76	55.573	38.455	5.972	100
Whiskey-1 -oxi-56	0.03	51.63	0.08	0.17	2.5	0	10.09	0	0.38	34.01	0.1	0.01	98.99	6.59	28.07	99.65	57.277	36.675	6.047	100
Whiskey-1 -oxi-57	0.02	52.47	0.09	0.15	2.41	0	10.78	0.01	0.37	32.61	0.15	0.02	99.08	5.61	27.56	99.65	55.887	38.975	5.138	100
Whiskey-1 -oxi-58	0	51.6	0.05	0.22	2.76	0	10.38	0	0.43	33.87	0.1	0	99.42	7.17	27.42	100.14	55.807	37.638	6.556	100
Whiskey-1 -oxi-59	0.03	51.83	0	0.1	2.41	0.04	10.46	0.01	0.3	33.26	0.12	0	98.56	6.27	27.62	99.19	56.298	37.972	5.729	100
Whiskey-1 -oxi-60	0	52.02	0.06	0.2	2.51	0	10.67	0	0.35	33.3	0.13	0.04	99.28	6.64	27.32	99.94	55.382	38.551	6.067	100
Whiskey-1 -oxi-61	0.02	51.91	0.01	0.08	2.49	0	10.43	0.02	0.34	32.99	0.11	0.02	98.43	5.96	27.63	99.03	56.515	38.010	5.475	100
Whiskey-1 -oxi-62	0	51.79	0.1	0.16	2.52	0	10.43	0.01	0.37	33.29	0.11	0.03	98.81	6.34	27.59	99.45	56.253	37.917	5.830	100
Whiskey-1 -oxi-63	0.01	51.81	0.11	0.2	2.6	0	10.54	0	0.37	33.37	0.14	0.04	99.19	6.63	27.4	99.85	55.719	38.203	6.078	100
Whiskey-1 -oxi-64	0.01	51.64	0.1	0.16	2.31	0.12	10.2	0.01	0.38	33.76	0.08	0.03	98.82	6.33	28.06	99.45	57.178	37.026	5.796	100
Whiskey-1 -oxi-65	0.01	51.79	0.07	0.12	2.46	0.01	10.44	0.01	0.34	33.38	0.13	0	98.76	6.42	27.6	99.41	56.203	37.899	5.898	100
Whiskey-1 -oxi-66	0.02	51.86	0.04	0.15	2.55	0	10.73	0.01	0.32	33.46	0.12	0	99.27	7.02	27.14	99.97	54.900	38.694	6.406	100
Whiskey-1 -oxi-67	0.01	51.67	0.09	0.14	2.47	0	10.37	0.01	0.37	33.48	0.1	0.02	98.72	6.54	27.59	99.38	56.294	37.701	6.005	100
Whiskey-1 -oxi-68	0.01	51.85	0.09	0.15	2.46	0.04	10.84	0.02	0.32	33.31	0.16	0.04	99.28	7.06	26.95	99.99	54.492	39.069	6.439	100
Whiskey-1 -oxi-69	0.02	51.62	0.15	0.03	2.47	0	10.1	0	0.39	33.5	0.12	0	98.43	6.01	28.09	99.03	57.579	36.884	5.536	100
Whiskey-1 -oxi-70	0	51.99	0.04	0.09	2.51	0.13	10.62	0.01	0.33	33.03	0.14	0.03	98.91	6.06	27.58	99.52	56.005	38.447	5.549	100
Whiskey-1 -oxi-71	0	51.2	0.07	0.09	2.25	0	9.63	0.02	0.34	35.2	0.11	0.01	98.92	7.48	28.47	99.67	58.110	35.024	6.866	100
Whiskey-1 -oxi-72	0.02	47.76	0.19	0.03	2.59	0.07	7.78	0.01	0.38	39.75	0.06	0.02	98.65	12.01	28.94	99.85	60.047	28.755	11.199	100
Whiskey-1 -oxi-73	0.02	49.51	0.15	0.08	3.08	0.05	10.19	0.01	0.24	35.42	0.14	0.03	98.92	10.24	26.2	99.95	53.521	37.078	9.402	100
Whiskey-1 -oxi-74	0.02	51.7	0.13	0.16	2.49	0	10.35	0	0.35	33.85	0.13	0.02	99.21	6.83	27.71	99.9	56.301	37.467	6.232	100
Whiskey-1 -oxi-75	0	49.93	0.18	0.06	3.06	0	9.29	0	0.34	35.62	0.12	0.01	98.63	8.41	28.05	99.47	57.997	34.204	7.799	100

Whiskey-1 Clinopyroxene

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total	
Whiskey-1 -pyx-1	54.76	0.13	0.19	1.87	15.94	22.38	0.1	2.81	0.01	1.55	0.01	99.75	Clinopyroxene
Whiskey-1 -pyx-2	55.08	0.24	6.41	0.61	13.85	13.72	0.11	4.72	0.09	4.51	0	99.34	Clinopyroxene
Whiskey-1 -pyx-3	54.82	0.18	1.25	3.44	14.56	19.06	0.06	2.95	0.03	2.99	0.01	99.33	Clinopyroxene
Whiskey-1 -pyx-5	54.49	0.11	3.44	2.88	14.39	18.49	0.07	2.23	0.06	3.23	0	99.4	Clinopyroxene
Whiskey-1 -pyx-6	54.64	0.19	0.56	2.96	15.11	20.7	0.06	2.56	0	2.31	0.01	99.11	Clinopyroxene
Whiskey-1 -pyx-8	55.45	0.17	6.87	0.61	13.55	13.87	0.07	4.26	0.04	4.71	0.02	99.61	Clinopyroxene
Whiskey-1 -pyx-9	55.53	0.22	5.49	0.81	16.03	12.54	0.15	4.78	0.01	4.06	0.01	99.63	Clinopyroxene
Whiskey-1 -pyx-10	55.89	0.25	5.07	0.8	16.62	12.51	0.15	4.73	0.05	3.82	0.02	99.89	Clinopyroxene
Whiskey-1 -pyx-11	55.45	0.33	6.8	0.62	12.95	13.88	0.11	4.72	0.05	4.94	0	99.85	Clinopyroxene
Whiskey-1 -pyx-12	55.13	0.27	5.59	0.97	14.51	13.67	0.11	4.53	0.04	4.24	0	99.08	Clinopyroxene
Whiskey-1 -pyx-13	54.82	0.1	0.17	2.58	15.73	21.8	0.04	2.34	0.04	1.81	0	99.43	Clinopyroxene
Whiskey-1 -pyx-14	55.66	0.16	6.68	0.73	14.13	13.35	0.07	4.37	0.09	4.75	0.01	99.99	Clinopyroxene
Whiskey-1 -pyx-15	55.54	0.28	4.6	0.73	16.76	13.32	0.12	4.45	0.07	3.62	0.01	99.49	Clinopyroxene
Whiskey-1 -pyx-16	54.69	0.19	0.6	0.96	16.43	21.89	0.07	3.39	0.05	1.31	0.01	99.6	Clinopyroxene
Whiskey-1 -pyx-17	54.71	0.05	0.14	3.11	15.87	21.65	0.07	1.98	0.04	1.79	0	99.42	Clinopyroxene
Whiskey-1 -pyx-18	55.02	0.13	0.19	2.47	15.81	21.9	0.06	2.43	0.08	1.75	0	99.83	Clinopyroxene
Whiskey-1 -pyx-19	54.93	0.11	1.88	2.56	15.47	20.65	0.09	2.08	0	2.19	0	99.96	Clinopyroxene
Whiskey-1 -pyx-20	55.18	0.31	4.95	0.67	16.17	13.37	0.1	4.74	0.06	3.7	0.01	99.24	Clinopyroxene
Whiskey-1 -pyx-21	54.85	0.19	0.15	2.4	16.1	22.15	0.02	2.32	0	1.58	0.01	99.76	Clinopyroxene
Whiskey-1 -pyx-22	54.76	0.14	0.3	2.32	15.53	21.75	0.06	2.79	0	1.78	0	99.42	Clinopyroxene
Whiskey-1 -pyx-23	54.93	0.15	0.21	2.04	16.19	22.4	0.05	2.21	0.09	1.45	0	99.72	Clinopyroxene
Whiskey-1 -pyx-24	55.52	0.13	6.75	0.81	14.14	13.3	0.08	4.11	0.03	4.73	0.01	99.61	Clinopyroxene
Whiskey-1 -pyx-25	55.37	0.13	6.63	0.57	13.89	13.54	0.07	4.39	0.05	4.69	0.02	99.36	Clinopyroxene
Whiskey-1 -pyx-26	55.36	0.34	6.29	0.69	13.55	13.95	0.11	4.72	0.02	4.71	0.02	99.75	Clinopyroxene
Whiskey-1 -pyx-27	55.31	0.24	6.93	0.45	13.33	13.88	0.08	4.61	0.01	4.8	0.01	99.66	Clinopyroxene
Whiskey-1 -pyx-28	54.66	0.17	0.29	2.83	15.14	21.07	0.09	3.11	0.02	2.1	0	99.48	Clinopyroxene
Whiskey-1 -pyx-29	55.34	0.17	6.78	0.63	14.11	13.16	0.1	4.19	0.06	4.72	0.01	99.27	Clinopyroxene
Whiskey-1 -pyx-30	55.44	0.37	6.75	0.73	13.06	13.67	0.11	4.79	0.02	4.87	0.01	99.82	Clinopyroxene
Whiskey-1 -pyx-31	55.25	0.22	7.04	0.49	13.26	13.59	0.11	4.88	0.07	4.91	0.01	99.83	Clinopyroxene
Whiskey-1 -pyx-32	55.37	0.16	6.37	0.79	14.34	13.22	0.1	4.16	0.05	4.54	0.01	99.1	Clinopyroxene
Whiskey-1 -pyx-33	54.68	0.13	1.77	2.85	15.04	19.94	0.04	2.43	0	2.5	0	99.38	Clinopyroxene
Whiskey-1 -pyx-34	54.77	0.28	1.79	2.07	15.05	19.56	0.08	3.48	0.01	2.54	0.01	99.65	Clinopyroxene
Whiskey-1 -pyx-35	54.59	0.2	0.72	1.44	15.3	21.12	0.09	3.93	0.02	1.93	0	99.34	Clinopyroxene
Whiskey-1 -pyx-36	55.19	0.12	0.2	2.12	16	22.22	0.08	2.41	0.04	1.59	0.01	99.97	Clinopyroxene
Whiskey-1 -pyx-37	54.46	0.17	0.92	2.42	15.35	20.75	0.09	3.14	0.04	2.02	0.01	99.35	Clinopyroxene
Whiskey-1 -pyx-38	55.05	0.34	6.57	0.6	12.9	14.2	0.11	4.66	0.01	4.72	0.01	99.18	Clinopyroxene
Whiskey-1 -pyx-39	55.16	0.29	4.44	1.11	15.25	15.41	0.09	4.32	0.01	3.45	0.02	99.56	Clinopyroxene
Whiskey-1 -pyx-40	54.63	0.11	0.17	2.16	15.97	22.23	0.08	2.06	0.04	1.56	0	99.03	Clinopyroxene
Whiskey-1 -pyx-41	55.26	0.18	6.96	0.73	13.84	13.67	0.11	4.25	0.03	4.76	0.02	99.82	Clinopyroxene
Whiskey-1 -pyx-42	54.86	0.14	0.08	2.12	16.14	22.42	0.1	2.23	0.04	1.55	0	99.66	Clinopyroxene
Whiskey-1 -pyx-43	55.1	0.16	6.92	0.48	13.57	13.84	0.1	4.36	0.1	4.76	0	99.4	Clinopyroxene
Whiskey-1 -pyx-44	54.89	0.15	0.13	2.46	15.68	21.47	0.05	2.83	0.01	1.86	0	99.54	Clinopyroxene
Whiskey-1 -pyx-45	55.31	0.17	6.79	0.52	13.75	13.72	0.07	4.2	0.02	4.74	0.01	99.31	Clinopyroxene
Whiskey-1 -pyx-46	54.58	0.17	0.2	1.94	15.85	22.05	0.05	2.89	0.02	1.6	0	99.36	Clinopyroxene
Whiskey-1 -pyx-47	55.29	0.29	4.79	0.61	16.14	13.43	0.16	4.74	0.05	3.57	0.01	99.08	Clinopyroxene
Whiskey-1 -pyx-48	54.59	0.15	0.31	3	15.23	21.07	0.08	3.01	0.02	2.07	0	99.51	Clinopyroxene
Whiskey-1 -pyx-49	55.65	0.23	4.73	0.85	17.11	12.65	0.12	4.7	0.04	3.57	0.02	99.66	Clinopyroxene
Whiskey-1 -pyx-51	54.58	0.09	0.04	1.81	16.24	22.62	0.06	2.39	0.03	1.36	0	99.22	Clinopyroxene
Whiskey-1 -pyx-52	55.07	0.09	0	2.2	15.96	22.37	0.06	2.71	0.05	1.55	0	100.08	Clinopyroxene
Whiskey-1 -pyx-53	54.65	0.24	0.82	1.73	15.13	20.4	0.08	4.09	0.05	2.21	0	99.41	Clinopyroxene
Whiskey-1 -pyx-54	54.65	0.12	0.06	2.2	15.8	22.14	0.06	2.42	0.02	1.55	0	99.02	Clinopyroxene
Whiskey-1 -pyx-55	54.65	0.05	3.48	2.93	14.45	19.12	0.03	1.81	0.05	3.01	0	99.6	Clinopyroxene
Whiskey-1 -pyx-56	55.58	0.15	6.48	0.71	14.28	13.41	0.12	4.5	0.02	4.51	0.02	99.79	Clinopyroxene
Whiskey-1 -pyx-58	55.54	0.2	4.91	0.77	16.68	12.42	0.11	4.64	0.09	3.71	0.02	99.09	Clinopyroxene
Whiskey-1 -pyx-59	55	0.14	0.3	2.83	15.2	21.02	0.05	2.94	0.02	1.97	0	99.46	Clinopyroxene
Whiskey-1 -pyx-60	54.76	0.1	2.45	3.11	14.2	19.08	0.04	2.2	0	3.09	0	99.03	Clinopyroxene
Whiskey-1 -pyx-62	54.95	0.1	0.06	1.94	16.23	22.78	0.06	2.13	0	1.32	0.01	99.57	Clinopyroxene
Whiskey-1 -pyx-64	55.42	0.3	6.59	1.01	13.54	13.27	0.11	4.62	0.07	4.93	0.02	99.89	Clinopyroxene
Whiskey-1 -pyx-66	55.65	0.17	6.94	0.6	13.88	13.6	0.11	4.25	0.08	4.67	0.01	99.94	Clinopyroxene

Whiskey-1 Clinopyroxene

Sample	SiO_2	TiO_2	Al_2O_3	Cr_2O_3	MgO	CaO	MnO	FeO	NiO	Na_2O	K_2O	Total	
Whiskey-1 -pyx-67	55.04	0.15	0.34	0.56	16.51	22.59	0.11	2.86	0.01	1.18	0	99.34	Clinopyroxene
Whiskey-1 -pyx-68	55.43	0.15	6.89	0.52	13.71	13.74	0.1	4.58	0.03	4.71	0.01	99.87	Clinopyroxene
Whiskey-1 -pyx-69	55.57	0.27	6.74	0.74	13.3	13.37	0.08	4.67	0.02	5.02	0	99.78	Clinopyroxene
Whiskey-1 -pyx-70	54.73	0.14	0.1	2.24	16.32	22.35	0.06	1.95	0.08	1.48	0	99.46	Clinopyroxene
Whiskey-1 -pyx-71	55.47	0.13	6.89	0.76	14.09	12.98	0.12	4.09	0.06	4.85	0.02	99.47	Clinopyroxene
Whiskey-1 -pyx-73	54.35	0.26	1.21	2.68	14.87	20.35	0.08	3.43	0.06	2.26	0.02	99.58	Clinopyroxene
Whiskey-1 -pyx-74	54.79	0.13	1.59	2.27	15.04	21.05	0.06	2.44	0.05	2.3	0	99.73	Clinopyroxene
Whiskey-1 -pyx-75	54.86	0.15	0.88	2.92	15.05	20.47	0.06	2.52	0	2.32	0	99.24	Clinopyroxene

Whiskey-1 Orthopyroxene

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total	
Whiskey-1 -pyx-50	57.82	0.05	0.77	0.45	33.71	0.73	0.08	5.62	0.14	0.4	0.01	99.77	Orthopyroxene
Whiskey-1 -pyx-57	57.76	0.03	0.56	0.36	34.24	1	0.14	5.42	0.09	0.21	0	99.84	Orthopyroxene
Whiskey-1 -pyx-61	57.64	0.06	0.61	0.32	34.07	1.04	0.09	5.56	0.14	0.17	0	99.69	Orthopyroxene
Whiskey-1 -pyx-65	58.03	0.1	0.94	0.88	34.07	0.61	0.1	4.71	0.1	0.66	0	100.18	Orthopyroxene

Whiskey-1 Olivine

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Whiskey-1 -oli-1	40.41	0	0	0.07	48.03	0.03	0.14	10.36	0.42	0.04	0.01	99.52
Whiskey-1 -oli-2	40.24	0.02	0	0	47.79	0.05	0.14	10.71	0.32	0.06	0.01	99.36
Whiskey-1 -oli-3	40.3	0.01	0	0.03	47.35	0.06	0.14	11.25	0.28	0.05	0.03	99.5
Whiskey-1 -oli-4	40.04	0.02	0	0	47.43	0.04	0.15	10.71	0.23	0.03	0.01	98.65
Whiskey-1 -oli-5	40.33	0	0	0.04	48.59	0.05	0.13	9.62	0.34	0.03	0	99.14
Whiskey-1 -oli-6	40.31	0.03	0	0.05	48.67	0	0.16	9.41	0.3	0.03	0	98.96
Whiskey-1 -oli-7	40.9	0.02	0	0	49.97	0	0.16	8	0.32	0	0	99.38
Whiskey-1 -oli-8	40.82	0.04	0	0.03	49.25	0.09	0.12	8.87	0.44	0.02	0	99.69
Whiskey-1 -oli-9	40.72	0	0	0.01	49.65	0	0.15	8.41	0.27	0	0	99.21
Whiskey-1 -oli-10	40.19	0.02	0	0.01	47.62	0.03	0.12	11.24	0.32	0.02	0	99.57
Whiskey-1 -oli-11	40.29	0.01	0	0.03	48.02	0.03	0.12	10.35	0.41	0.06	0.03	99.35
Whiskey-1 -oli-12	40.54	0	0	0.03	47.67	0.06	0.14	10.34	0.38	0.04	0	99.21

Whiskey-1 Amphibole

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total	
Whiskey-1 -pyx-4	47.94	0.08	9.25	2.17	20.16	10.02	0.02	2.44	0.06	3.94	0.98	97.06	Amphibole
Whiskey-1 -pyx-7	44.92	0.35	13.2	1.07	19.04	11.97	0.08	3.24	0.07	3.28	0.52	97.74	Amphibole
Whiskey-1 -pyx-72	49.07	0.15	8.41	1.87	20.31	9.6	0.03	2.57	0.06	4.09	0.98	97.15	Amphibole

Whiskey-1 Magnetite

Sample	SiO2	TiO2	Nb2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Whiskey-1 -oxi-100	0.2	0.01	0	0.05	0	0.07	0.73	0.02	0.32	92.15	0	0.01	93.56	68.96	30.1	100.47
Whiskey-1 -oxi-117	0.54	0.05	0	0.16	0	0.11	0.44	0.06	0.42	91.99	0.02	0.01	93.8	67.79	30.99	100.59

X-Ray Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
X-Ray -1	dk purple	41.411	0.1007	17.5176	7.9971	19.558	5.729	0.4107	7.251	0	0.0272	0.005	100.01
X-Ray -2	dk purple	41.4	0.0771	18.0916	7.4211	18.95	6.101	0.5236	7.886	0	0.0194	0	100.47
X-Ray -3	dk purple	41.61	0.2215	20.116	4.5542	20.203	5.01	0.4148	7.594	0.01	0.0206	0	99.754
X-Ray -4	dk purple	41.917	0.3307	19.224	4.365	20.554	5.174	0.3215	8.12	0.041	0.0188	0	100.07
X-Ray -5	dk purple	42.316	0.4346	19.9147	3.653	21.129	4.762	0.3179	7.683	0.001	0.0548	0.028	100.29
X-Ray -6	dk purple	41.427	0.1203	19.2073	6.1088	19.607	5.515	0.433	7.809	0.07	0.0215	0	100.32
X-Ray -7	dk purple	41.576	0.2301	19.393	5.5907	20.465	4.95	0.3521	7.659	0.062	0.0482	0	100.33
X-Ray -8	dk purple	41.385	0.1017	19.0506	5.8989	19.684	5.532	0.509	7.599	0	0.036	0	99.796
X-Ray -9	dk purple	41.326	0.2342	19.0494	6.0352	19.996	5.085	0.4194	7.434	0.01	0.044	0.005	99.638
X-Ray -10	dk purple	41.699	0.2102	18.6122	6.7351	20.692	4.785	0.3857	6.926	0.003	0.0662	0	100.12
X-Ray -11	dk purple	39.005	0.0494	21.7788	0.053	7.5958	7.495	0.4811	24.27	0.054	0.0209	0	100.81
X-Ray -12	dk purple	41.666	0.1114	20.2319	4.2548	20.378	4.903	0.4187	7.755	0	0.0329	0.026	99.778
X-Ray -13	dk purple	41.457	0.1074	18.8084	6.3688	19.784	5.79	0.4362	6.985	0.047	0.0191	0.014	99.817
X-Ray -14	dk purple	41.682	0.2031	20.397	4.3381	20.499	4.799	0.3329	7.806	0.022	0.0446	0	100.12
X-Ray -15	dk purple	42.005	0.1548	20.0899	4.8893	20.347	5.127	0.4436	7.756	0.003	0.0311	0	100.85
X-Ray -16	dk purple	41.579	0.2276	19.1608	5.926	20.355	5.059	0.3898	7.781	0.044	0.0492	0.04	100.61
X-Ray -17	dk purple	41.662	0.2699	19.1809	5.2792	19.963	5.206	0.3928	7.952	0.041	0.0513	0	99.998
X-Ray -18	dk purple	41.423	0.0986	18.2586	7.4854	20.059	5.22	0.36	7.237	0.042	0.0267	0	100.21
X-Ray -19	dk purple	38.971	0.137	21.3571	0.1054	7.7253	6.913	0.4795	24.83	0	0.0033	0	100.52
X-Ray -20	dk purple	41.715	0.1992	18.916	4.8848	20.114	5.374	0.3552	7.912	0.04	0.0098	0	99.519
X-Ray -21	dk purple	40.887	0.336	15.6131	7.409	19.001	6.679	0.3675	9.21	0	0.0135	0.003	99.519
X-Ray -22	dk purple	41.842	0.2113	20.9621	3.2495	20.483	4.666	0.4652	8.293	0.006	0.0347	0.004	100.22
X-Ray -23	dk purple	41.706	0.2535	19.329	5.655	20.38	5.028	0.4097	7.594	0	0.0523	0.018	100.43
X-Ray -24	dk purple	41.121	0.0557	15.907	9.1228	18.92	6.922	0.3256	7.715	0	0	0	100.09
X-Ray -25	dk purple	41.557	0.2152	19.4024	5.7173	20.461	5.093	0.4798	7.498	0	0.0569	0	100.48
X-Ray -26	dk purple	42.23	0.2049	21.2305	3.3447	20.888	4.242	0.391	7.679	0.04	0.0612	0	100.31
X-Ray -27	dk purple	41.929	0.206	18.4559	5.5375	20.379	5.606	0.3312	7.789	0.003	0.0087	0	100.24
X-Ray -28	dk purple	39.094	0.1169	21.5453	0.1692	9.1004	6.129	0.5198	24.4	0	0.0093	0	101.08
X-Ray -29	dk purple	42.453	0.4134	19.9341	3.3689	20.989	4.438	0.3432	8.223	0	0.0597	0.01	100.23
X-Ray -30	dk purple	42.027	0.6037	19.2602	4.2149	20.763	4.74	0.2744	8.03	0.039	0.0601	0	100.01
X-Ray -31	dk purple	42.029	0.382	18.6727	4.8049	20.747	5.206	0.2724	8.061	0.015	0.0213	7E-04	100.21
X-Ray -32	dk purple	41.589	0.0248	18.5761	6.9551	20.27	5.815	0.4379	6.278	0.003	0.0416	0.025	100.02
X-Ray -33	dk purple	41.762	0.221	19.3883	5.6163	20.267	5.008	0.3566	7.541	0.016	0.053	0	100.23
X-Ray -34	dk purple	41.609	0.2771	19.5219	5.2752	19.836	5.248	0.3946	7.77	0	0.0444	0	99.976
X-Ray -35	dk purple	42.083	0.1982	20.8266	3.3745	20.459	4.713	0.4259	8.571	0.006	0.0339	0	100.69
X-Ray -36	dk purple	42.17	0.2674	19.5892	5.572	20.475	4.861	0.4494	7.453	0	0.0444	0	100.88
X-Ray -37	dk purple	41.937	0.4746	18.2802	5.9547	20.384	5.372	0.2695	7.656	0.032	0.042	0	100.4
X-Ray -38	dk purple	41.806	0.2803	19.9408	4.596	20.242	4.313	0.41	8.319	0.001	0.0441	0	99.952
X-Ray -39	dk purple	41.436	0.2528	18.6329	6.7076	19.717	5.542	0.4644	7.397	0.002	0.0555	0	100.21
X-Ray -40	dk purple	41.857	0.1233	20.4379	4.2544	20.538	4.927	0.4473	7.62	0.019	0.0356	0	100.26
X-Ray -41	dk purple	41.382	0.113	18.8478	6.6015	20.259	5.18	0.4394	7.105	0.01	0.037	0.014	99.989
X-Ray -42	dk purple	42.619	0.4074	20.4106	2.7119	21.319	4.559	0.2733	8.21	0.019	0.0374	0	100.57
X-Ray -43	dk purple	41.691	0.2438	19.7612	4.9798	20.117	5.198	0.3711	7.811	0	0.0391	0.042	100.25
X-Ray -44	dk purple	42.125	0.4576	19.6824	3.6001	20.949	4.646	0.3602	8.249	0.012	0.0478	0.032	100.16
X-Ray -45	dk purple	41.325	0.1225	18.9688	6.416	19.958	5.745	0.3849	7.123	0	0.0438	0.022	100.11
X-Ray -46	dk purple	42.384	0.4381	19.818	3.6234	21.018	4.641	0.3532	8.151	0	0.0501	0	100.48
X-Ray -47	dk purple	41.683	0.2838	19.8567	4.6784	20.23	4.758	0.4411	8.201	0.034	0.0379	0	100.2
X-Ray -48	dk purple	41.064	0.2282	16.5689	7.7303	19.399	6.316	0.3546	7.73	0.015	0.0123	0	99.418
X-Ray -49	dk purple	41.208	0.2944	15.9536	7.2887	19.002	6.698	0.3416	9.161	0	0.0098	0	99.957
X-Ray -50	dk purple	40.838	0.1132	14.7933	7.5907	18.383	7.171	0.3634	10.15	0.018	0.0073	0	99.422
X-Ray -51	purple	41.874	0.268	20.44	4.0531	20.266	4.7	0.4585	7.919	0.047	0.0435	0	100.07
X-Ray -52	purple	41.946	0.0061	21.5987	2.7602	19.276	5.633	0.5771	8.372	0.021	0.0078	0.006	100.2
X-Ray -53	purple	41.757	0.0098	20.3026	4.5866	20.306	4.443	0.4947	8.065	0.032	0.0151	0	100.01
X-Ray -54	purple	41.673	0.1494	19.5192	5.22	20.347	4.906	0.3953	7.408	0	0.0358	0.038	99.69
X-Ray -55	purple	41.833	0.2641	19.8205	5.1086	20.87	4.527	0.3883	7.344	0	0.0626	0	100.22
X-Ray -56	purple	41.829	0.2089	20.9674	3.2718	20.342	4.699	0.3788	8.06	0.015	0.0402	0	99.812
X-Ray -57	purple	42.031	0.2188	21.0048	3.4173	20.521	4.758	0.3859	8.164	0	0.0369	0.009	100.55
X-Ray -58	purple	41.95	0.1552	20.6695	3.7252	20.75	4.277	0.4322	8.097	0.013	0.053	0.017	100.14
X-Ray -59	purple	42.126	0.3646	20.1702	3.1736	21.515	4.501	0.3015	7.855	0.024	0.0446	0	100.07

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
X-Ray -60	purple	41.334	0.0697	18.5612	6.6992	19.184	5.992	0.4265	7.729	0.001	0.0116	0	100.01
X-Ray -61	purple	42.038	0.2117	21.2981	3.0038	21.063	4.353	0.3793	7.471	0	0.043	0.005	99.866
X-Ray -62	purple	42.651	0.1315	22.2724	2.1198	21.409	4.047	0.3712	7.447	0	0.0396	0	100.49
X-Ray -63	purple	41.476	0.3849	20.2159	4.1552	19.972	4.34	0.4653	8.83	0.028	0.0829	0	99.951
X-Ray -64	purple	42.19	0.0918	20.9232	3.738	20.753	4.822	0.3428	6.726	0	0.0297	0.006	99.622
X-Ray -65	purple	41.716	0.1231	18.9936	6.2377	20.425	4.278	0.4786	8.238	0	0.0494	0.025	100.56
X-Ray -66	purple	42.103	0.1191	20.5091	4.3543	20.504	5.002	0.4405	7.786	0.02	0.0368	0	100.88
X-Ray -67	purple	41.933	0.3859	21.2251	2.8169	20.761	3.666	0.4266	9.07	0	0.0893	0	100.37
X-Ray -68	purple	42.381	0.1516	22.1327	2.2022	21.422	3.691	0.3979	8.047	0.001	0.0601	0	100.49
X-Ray -69	purple	41.515	0.2197	20.0341	4.8398	20.236	5.108	0.4081	7.83	0	0.0451	0	100.24
X-Ray -70	purple	42.139	0.2312	20.2634	4.3344	20.821	4.539	0.3632	7.889	0.038	0.0625	0	100.68
X-Ray -71	purple	41.935	0.2248	20.3136	4.2695	20.531	4.883	0.3649	7.682	0.013	0.0455	0	100.26
X-Ray -72	purple	42.18	0.198	20.9346	3.5199	21.4	3.6	0.3635	7.973	0.03	0.0638	0	100.26
X-Ray -73	purple	42.077	0.0085	21.9001	2.5903	20.073	4.74	0.4314	8.226	0.043	0.0088	0	100.1
X-Ray -74	purple	42.097	0.0809	21.3664	3.0781	19.792	5.546	0.4481	8.43	0	0.015	0.012	100.87
X-Ray -75	purple	41.99	0.0358	21.8704	2.7629	19.523	5.626	0.5144	8.364	0	0.0045	0	100.69
X-Ray -76	purple	41.445	0.2245	19.2448	5.7869	20.311	5.039	0.4106	7.548	0.022	0.0434	0	100.08
X-Ray -77	purple	41.092	0.2272	17.5499	7.4269	18.104	6.388	0.4764	8.681	0.04	0.0285	0.025	100.04
X-Ray -78	purple	42.142	0.1065	20.578	4.3809	20.496	4.954	0.4055	7.841	0.028	0.0264	0	100.96
X-Ray -79	purple	41.401	0.3114	18.1086	7.0593	19.874	5.399	0.4116	7.266	0	0.0709	0.038	99.939
X-Ray -80	purple	41.875	0.3297	19.6951	4.9446	20.2	5.337	0.4097	7.509	0	0.069	0	100.37
X-Ray -81	purple	41.817	0.1168	20.3763	4.3625	20.305	4.99	0.4535	7.756	0	0.0291	0.002	100.21
X-Ray -82	purple	41.736	0.2443	20.9032	3.4583	20.441	4.725	0.4074	7.951	0	0.045	0	99.912
X-Ray -83	purple	41.855	0.2049	21.1388	3.2045	20.545	4.677	0.3637	8.113	0.041	0.0413	0.009	100.19
X-Ray -84	purple	41.717	0.2478	19.3877	5.1949	19.896	5.422	0.3631	7.924	0.007	0.0289	0	100.19
X-Ray -85	purple	41.307	0.0404	21.5623	3.1581	18.915	5.705	0.5901	8.792	0	0.0042	0	100.07
X-Ray -86	purple	41.355	0.2217	19.0313	5.9599	20.15	5.117	0.3713	7.61	0	0.0358	0	99.852
X-Ray -87	purple	42.448	0.1735	22.6495	1.5508	21.786	4.046	0.4654	7.212	0	0.0402	0	100.37
X-Ray -88	purple	42.251	0.2984	19.7269	4.8411	21.126	5.103	0.3116	6.809	0.044	0.0283	0	100.54
X-Ray -89	purple	41.505	0.2206	19.543	4.9496	19.891	5.213	0.4179	8.053	0.035	0.036	0.017	99.882
X-Ray -90	purple	41.849	0.1061	20.448	4.3464	20.341	4.945	0.3114	7.854	0	0.0297	0.005	100.24
X-Ray -91	purple	41.882	0.1384	19.0201	5.8196	20.874	5.245	0.3354	6.711	0	0.0326	0	100.06
X-Ray -92	purple	41.545	0.2628	19.4732	5.2332	20.123	5.18	0.3956	7.796	0.009	0.0482	0.058	100.12
X-Ray -93	purple	42.047	0.1194	20.9375	3.6802	20.188	4.745	0.4203	8.021	0.004	0.0402	0.007	100.21
X-Ray -94	purple	41.853	0.2779	20.5145	4.0592	20.476	4.85	0.3763	8.179	0	0.0532	0.006	100.65
X-Ray -95	purple	41.879	0.1429	20.7692	3.7398	20.304	4.922	0.4173	7.93	0	0.0383	0.005	100.15
X-Ray -96	purple	41.908	0.1814	20.639	4.0527	20.444	4.927	0.4512	7.894	0	0.0355	0	100.53
X-Ray -97	purple	42.023	0.1113	20.3619	4.3223	20.498	4.968	0.3891	7.853	0.01	0.0351	0	100.57
X-Ray -98	purple	42.038	0.1868	20.8324	3.8246	20.961	3.628	0.4314	8.218	0	0.0644	0.015	100.2
X-Ray -99	purple	41.674	0.3552	20.5967	3.629	20.314	3.799	0.431	9.116	0.004	0.077	0.01	100.01
X-Ray -100	purple	41.944	0.0249	21.1857	3.5708	20.384	4.632	0.5882	7.95	0	0.0341	0	100.31
X-Ray -101	purple	41.544	0.0925	20.3908	4.4002	20.438	4.891	0.4102	7.837	0.026	0.0382	0.024	100.09
X-Ray -102	purple	41.842	0.1934	20.9102	3.2249	20.35	4.653	0.4531	8.054	0.031	0.0397	0	99.751
X-Ray -103	purple	42.114	0.2239	21.1497	3.308	20.382	4.734	0.4373	8.157	0.013	0.0397	0.017	100.58
X-Ray -104	purple	41.808	0.1783	21.0887	3.2685	20.373	4.751	0.4077	8.161	0.024	0.0346	0.016	100.11
X-Ray -105	purple	41.719	0.0197	20.097	4.9392	19.901	5.23	0.3748	7.923	0.019	0.0135	0	100.24
X-Ray -106	purple	42.201	0.189	19.7547	4.0374	20.667	5.101	0.3004	8.11	0.025	0.0204	0	100.41
X-Ray -107	purple	41.626	0.2365	18.9223	5.897	20.244	5.068	0.3887	7.507	0.009	0.0396	0	99.937
X-Ray -108	purple	41.849	0.2178	19.7674	4.8356	20.134	5.242	0.4355	7.769	0	0.0232	0.018	100.29
X-Ray -109	purple	41.982	0.2419	20.5725	3.8563	20.732	4.733	0.346	7.648	0	0.035	0	100.15
X-Ray -110	purple	41.783	0.0537	21.6676	2.9574	19.536	5.443	0.4829	8.211	0.012	0.0186	0.018	100.18
X-Ray -111	red	41.724	0.2042	19.9292	4.754	20.073	5.058	0.4103	7.819	0.015	0.0332	0	100.02
X-Ray -112	red	41.779	0.0964	20.4073	4.4118	20.371	4.941	0.4205	7.806	0.021	0.0275	0	100.28
X-Ray -113	red	41.355	0.0414	21.5377	2.8141	18.697	5.642	0.5757	8.953	0.003	0.0019	0	99.621
X-Ray -114	red	41.833	0.1371	19.6397	5.1165	20.438	4.813	0.4473	7.296	0.009	0.0395	0.037	99.807
X-Ray -115	red	41.852	0.2485	19.1892	5.668	20.397	5.042	0.4074	7.708	0	0.0505	0.006	100.57
X-Ray -116	red	41.731	0.0994	19.1784	6.0213	19.905	5.35	0.417	7.675	0.03	0.028	0	100.43
X-Ray -117	red	42.06	0.1032	21.6351	2.7447	19.278	5.372	0.521	8.776	0	0.0292	0	100.52
X-Ray -118	red	41.774	0.2164	19.598	5.158	20.228	5.171	0.4104	7.776	0	0.0231	0	100.35

X-Ray Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
X-Ray -119	red	41.876	0.361	21.2687	2.8064	20.903	3.526	0.4785	9.009	0.024	0.0755	0.004	100.33
X-Ray -120	red	42	0.2193	19.5679	4.084	20.595	5.09	0.3383	8.037	0.015	0.0221	0.012	99.981
X-Ray -121	red	41.601	0.2574	19.2003	5.8037	20.328	5.049	0.4173	7.477	0	0.0563	0.033	100.22
X-Ray -122	red	41.986	0.1018	20.4019	4.4323	20.263	4.897	0.4505	7.909	0.022	0.0311	0	100.49
X-Ray -123	red	41.949	0.0969	20.3468	4.2997	20.451	4.836	0.4277	7.892	0.007	0.031	0	100.34
X-Ray -124	red	41.972	0.3619	21.5677	2.0886	20.286	3.81	0.4378	9.417	0	0.083	0.003	100.03
X-Ray -125	red	42.5	0.1314	22.1199	2.1047	21.364	4.072	0.3809	7.394	0	0.0389	0	100.11
X-Ray -126	red	41.875	0.0945	20.4287	4.4069	20.226	4.984	0.4318	7.916	0.087	0.0381	5E-04	100.49
X-Ray -127	red	42.07	0.2345	20.8833	3.4931	20.499	4.709	0.4422	8.034	0	0.0441	0	100.41
X-Ray -128	red	42.193	0.3121	19.5962	4.8122	21.165	5.104	0.3249	6.955	0.035	0.0259	0	100.52
X-Ray -129	red	42.321	0.1619	19.7686	3.9978	20.747	5.062	0.3558	8.094	0	0.0097	0	100.52
X-Ray -130	red	42.115	0.0913	20.3383	4.349	20.372	5.033	0.3996	7.763	0.046	0.032	0	100.54
X-Ray -131	red	42.128	0.1016	20.0991	4.465	20.554	5.04	0.408	7.787	0	0.0394	0.003	100.62
X-Ray -132	red	41.862	0.2137	19.8646	4.8777	20.029	5.22	0.3752	7.974	0.006	0.0401	0	100.46
X-Ray -133	red	41.868	0.2149	20.3101	4.171	20.137	4.915	0.4007	8.16	0.034	0.0311	0.012	100.25
X-Ray -134	red	41.691	0.1035	20.2417	4.4087	20.545	4.901	0.4349	7.745	0	0.03	0	100.1
X-Ray -135	red	41.749	0.217	19.9511	4.8011	20.102	5.118	0.4302	8.069	0	0.0447	0.016	100.5
X-Ray -136	red	41.844	0.202	18.9007	4.9129	20.202	5.361	0.4388	7.903	0	0.0377	0	99.802
X-Ray -137	red	41.974	0.2077	18.9159	4.8844	20.307	5.446	0.3076	8.131	0	0.0215	0	100.19
X-Ray -138	red	41.744	0.243	19.8588	4.7578	19.987	5.228	0.3725	7.957	0.013	0.0366	0.007	100.2
X-Ray -139	red	42.064	0.3628	21.3252	2.9012	20.861	3.559	0.4262	9.235	0.009	0.0974	0	100.84
X-Ray -140	red	41.918	0.2002	21.153	3.2389	20.381	4.652	0.4096	8.178	0	0.0367	0.017	100.18
X-Ray -141	red	41.851	0.1552	19.672	5.1042	20.514	4.889	0.4084	7.395	0	0.0325	0	100.02
X-Ray -142	red	42.106	0.4068	21.0226	2.9451	20.545	3.642	0.4801	8.762	0	0.09	0	100
X-Ray -143	red	41.708	0.2918	19.5985	5.0368	21.032	4.427	0.3954	7.37	0	0.0604	0.005	99.924
X-Ray -144	red	42.252	0.0179	21.982	2.5742	20.281	4.729	0.4401	8.232	0.01	0.0029	0	100.52
X-Ray -145	red	42.408	0.1942	21.9465	2.1246	20.631	4.371	0.4359	7.928	0.016	0.0398	0.011	100.11
X-Ray -146	red	41.544	0.1814	20.0119	4.7994	20.08	5.186	0.4065	7.893	0	0.0343	0.007	100.14
X-Ray -147	red	41.644	0.1786	18.3385	5.5434	20.243	5.58	0.3008	7.753	0.021	0.0142	0.006	99.623
X-Ray -148	red	41.307	0.178	19.0648	5.5119	20.457	4.841	0.3967	7.401	0	0.0988	0.059	99.315
X-Ray -149	red	42.601	0.4122	20.624	2.3959	21.359	4.343	0.2915	8.214	0.071	0.0502	0	100.36
X-Ray -150	red	42.343	0.356	19.9273	3.2586	21.252	4.463	0.3046	7.771	0.061	0.0495	0	99.786
X-Ray -151	red	41.891	0.223	21.0099	3.1979	20.416	4.645	0.4398	8.14	0.024	0.0303	0.021	100.04
X-Ray -152	red	41.679	0.1792	21.0886	3.0954	20.476	4.675	0.3664	8.123	0	0.0303	0.011	99.724
X-Ray -153	red	42.315	0.4395	20.3808	3.2247	21.261	4.348	0.3254	8.019	0	0.0647	0.043	100.42
X-Ray -154	red	41.794	0.2517	19.677	4.8117	19.83	4.894	0.4318	8.464	0	0.0482	0	100.2
X-Ray -155	red	41.983	0.1847	19.6844	4.0817	20.789	5.058	0.2263	7.981	0.001	0.0008	0.003	99.993
X-Ray -156	red	41.701	0.6927	20.8768	2.1806	19.16	5.85	0.4086	8.936	0.056	0.0817	0.033	99.976
X-Ray -157	red	41.991	0.1933	20.9168	3.2908	20.625	4.637	0.3677	8.328	0.021	0.0289	0.018	100.42
X-Ray -158	red	41.912	0.113	20.4433	4.3261	20.397	4.969	0.4607	7.935	0	0.0385	0	100.59
X-Ray -159	red	42.231	0.2265	20.3269	3.4172	21.004	4.755	0.3312	7.896	0	0.0121	0	100.2
X-Ray -160	red	42.151	0.1365	21.1308	3.748	20.926	4.896	0.3909	7.078	0	0.0248	0	100.48
X-Ray -161	red	41.697	0.1939	19.8068	4.9038	20.132	5.241	0.4437	7.77	0.027	0.0395	0	100.25
X-Ray -162	red	41.968	0.2916	19.7989	4.8267	19.901	5.034	0.411	8.074	0.007	0.0535	0.045	100.41
X-Ray -163	red	41.62	0.2479	19.3606	5.8197	20.202	4.907	0.4067	7.717	0	0.0495	0	100.33
X-Ray -164	red	41.56	0.2089	19.8024	4.9041	19.991	5.201	0.5143	7.849	0	0.03	0.002	100.06
X-Ray -165	red	41.967	0.2196	19.8822	4.9928	20.057	5.155	0.4125	7.969	0.028	0.0404	0.019	100.74
X-Ray -166	red	41.882	0.0236	21.0479	3.9843	20.78	4.62	0.4659	7.243	0.034	0.0487	0	100.13
X-Ray -167	red	41.964	0.2091	21.038	3.3286	20.485	4.679	0.3185	8.176	0	0.0283	0	100.23
X-Ray -168	red	42.175	0.3097	20.1987	4.0103	21.491	4.678	0.3341	6.967	0.033	0.0461	0.035	100.28
X-Ray -169	red	41.85	0.1845	20.1888	4.8165	20.143	5.135	0.4663	8.039	0.022	0.037	0	100.88
X-Ray -170	red	42.005	0.2218	21.0971	3.2559	20.493	4.674	0.4233	8.166	0.031	0.0248	0.015	100.41
X-Ray -171	red	42.105	0.1841	21.0639	3.2733	20.392	4.671	0.3795	7.964	0	0.0346	0	100.07
X-Ray -172	red	42.092	0.2	19.6123	4.1132	20.706	5.181	0.3496	7.983	0.006	0.023	0.009	100.28
X-Ray -173	red	41.922	0.2283	21.0132	3.6882	20.497	4.821	0.3411	8.243	0.026	0.0426	0	100.82
X-Ray -174	red	41.883	0.1679	20.9772	3.6433	20.501	4.631	0.4033	8.132	0	0.0273	0	100.37
X-Ray -175	red	41.625	0.2213	20.1327	4.5231	20.328	4.917	0.4243	7.985	0	0.0415	0	100.2
X-Ray -176	red	42.013	0.1353	20.5843	4.2085	20.541	4.617	0.4599	7.881	0	0.0292	0	100.47
X-Ray -177	red	41.695	0.2137	19.939	4.8989	20.248	5.147	0.4452	7.996	0	0.0397	0.031	100.65

X-Ray Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
X-Ray -178	red	42.082	0.1987	21.1126	3.3192	20.368	4.685	0.4432	8.229	0.019	0.0442	0	100.5
X-Ray -179	red	41.888	0.2458	19.1336	5.7482	20.322	4.982	0.4098	7.66	0	0.0588	0.004	100.45
X-Ray -180	red	42.468	0.1851	20.3737	3.5174	20.79	4.912	0.3032	7.887	0	0.012	0	100.45
X-Ray -181	red	41.755	0.2592	20.793	3.5777	20.369	4.76	0.374	7.891	0	0.0351	0	99.814
X-Ray -182	red	41.766	0.2581	19.1654	5.803	20.239	5.07	0.3646	7.538	0.006	0.0619	0	100.27
X-Ray -183	red	41.732	0.2497	19.3737	5.5935	20.42	5.047	0.366	7.82	0	0.0479	0.013	100.66
X-Ray -184	red	41.68	0.2092	20.2369	4.2856	20.254	4.936	0.4159	8.054	0	0.0366	0.017	100.12
X-Ray -185	red	42.086	0.2054	20.9508	3.4888	20.376	4.748	0.4321	7.807	0.016	0.04	0	100.15
X-Ray -186	red	41.755	0.1163	18.8242	5.0257	20.453	5.377	0.3013	7.959	0.043	0.0067	0	99.86
X-Ray -187	red	41.519	0.1949	19.8928	4.8653	20.177	5.106	0.478	7.73	0	0.0343	0	99.998
X-Ray -188	red	41.441	0.2144	19.7071	4.7722	20.038	5.211	0.3749	7.705	0.027	0.0477	0.01	99.547
X-Ray -189	red	41.904	0.346	18.7329	4.7381	20.725	5.09	0.3043	7.697	0	0.0264	0.063	99.627
X-Ray -190	red	42.3	0.2736	21.0181	3.374	20.822	4.338	0.3826	7.623	0	0.0612	0.005	100.2
X-Ray -191	red	42.141	0.365	18.6496	4.7174	20.72	5.22	0.3423	8.186	0	0.0223	0.027	100.39
X-Ray -192	red	42.32	0.2095	19.5875	4.0317	20.739	5.193	0.3356	8.175	0.018	0.0139	0	100.62
X-Ray -193	red	41.547	0.2101	19.9294	4.8897	19.968	5.119	0.3975	7.768	0.009	0.0331	0	99.87
X-Ray -194	red	41.923	0.2763	19.869	4.6719	20.166	4.695	0.4227	8.202	0.015	0.0548	0	100.3
X-Ray -195	red	41.951	0.6501	21.3148	2.0089	20.02	4.404	0.4828	9.514	0.004	0.1113	0.011	100.47
X-Ray -196	red	41.596	0.5734	19.1891	4.2474	20.613	4.835	0.3466	8.166	0.069	0.0646	0.033	99.733
X-Ray -197	red	42.106	0.342	19.7226	3.7996	21.038	4.644	0.3172	8.178	0.024	0.0491	0.014	100.23
X-Ray -198	red	42.263	0.1587	21.1397	3.2894	20.406	4.708	0.4562	8.232	0.031	0.0209	0	100.7
X-Ray -199	red	42.114	0.3384	18.6913	4.7874	20.717	5.254	0.2986	8.021	0.05	0.0365	0	100.31
X-Ray -200	red	41.94	0.2183	21.0848	3.2424	20.166	4.73	0.3812	8.123	0.019	0.0407	0	99.946
X-Ray -201	red	41.818	0.2195	20.5296	4.0828	20.21	4.954	0.4022	7.834	0	0.0346	0	100.08
X-Ray -202	red	41.865	0.262	20.2988	4.3907	20.188	4.697	0.409	8.181	0.01	0.0566	0	100.36
X-Ray -203	red	42.329	0.2721	20.1575	4.1601	21.602	4.778	0.3222	6.652	0.013	0.0451	0	100.33
X-Ray -204	orange	41.924	0.6337	21.2143	2.0657	20.051	4.325	0.4929	9.415	0	0.131	0.01	100.26
X-Ray -205	orange	42.446	0.402	20.6152	2.636	21.073	4.566	0.3222	7.896	0.018	0.0467	0	100.02
X-Ray -206	orange	38.536	0.0599	21.6338	0.0314	7.4816	7.622	0.4934	24.35	0	0.0117	0	100.22
X-Ray -207	orange	42.32	0.2366	22.2998	1.5697	21.261	4.06	0.3579	8.143	0	0.0418	0	100.29
X-Ray -208	orange	42.687	0.3917	22.2347	0.1461	21.151	4.201	0.358	9.18	0.006	0.0392	0	100.4
X-Ray -209	orange	42.46	0.7837	22.1838	0.127	20.897	3.859	0.274	9.716	0.022	0.0969	0	100.42
X-Ray -210	orange	42.658	0.4113	22.3263	0.0714	21.095	4.109	0.2495	9.422	0.015	0.0357	0	100.39
X-Ray -211	orange	41.839	0.6543	21.3895	2.0775	20.063	4.422	0.482	9.409	0	0.1466	0	100.48
X-Ray -212	orange	42.849	0.6902	22.3638	0.0979	21.553	3.826	0.2769	8.788	0.037	0.0915	0	100.57
X-Ray -213	orange	42.041	0.4066	21.6819	2.0951	20.341	3.863	0.5085	9.354	0.01	0.0836	0.019	100.4
X-Ray -214	orange	41.92	0.5622	21.5004	1.666	19.628	4.624	0.4746	9.894	0	0.1178	0.003	100.39
X-Ray -215	orange	42.613	0.4615	22.2861	0.0589	21.27	4.166	0.27	9.498	0	0.0391	0.004	100.67
X-Ray -216	orange	42.077	0.6798	21.338	2.0936	19.97	4.412	0.4591	9.425	0	0.1347	0.004	100.59
X-Ray -217	orange	42.639	0.438	22.004	1.0639	21.785	4.083	0.2745	8.096	0.004	0.0547	0	100.44
X-Ray -219	orange	42.646	0.7258	21.3759	1.6435	21.363	4.127	0.3208	8.796	0	0.0767	0	101.07
X-Ray -220	orange	42.258	0.4059	21.9039	1.8299	20.313	3.761	0.4777	9.362	0	0.087	0	100.4
X-Ray -221	orange	42.427	0.3463	20.2296	3.1587	21.238	4.499	0.3391	7.997	0	0.0387	0.049	100.32
X-Ray -223	orange	42.076	0.657	21.2875	2.0818	19.876	4.318	0.4732	9.461	0.022	0.1284	0	100.38
X-Ray -224	orange	42.369	0.8708	21.0948	1.2013	21.054	4.067	0.352	9.272	0.03	0.1197	0	100.43
X-Ray -225	orange	42.504	0.3563	20.2842	3.1954	21.366	4.542	0.3476	7.825	0.022	0.0457	0	100.49
X-Ray -226	orange	41.883	0.3508	21.8231	1.7006	20.419	3.75	0.5048	9.257	0.04	0.0769	0	99.805
X-Ray -227	orange	41.634	0.6621	21.1492	2.0752	19.895	4.451	0.472	9.157	0.016	0.1292	0.014	99.655
X-Ray -228	orange	41.921	0.5344	21.6829	1.642	19.993	4.387	0.4523	9.569	0.03	0.1095	0.012	100.33
X-Ray -229	orange	42.495	0.2054	22.5703	1.3034	21.459	3.99	0.3344	7.253	0.028	0.0478	0	99.686
X-Ray -230	orange	42.108	0.6386	19.7348	3.4518	20.969	4.739	0.3077	8.044	0.003	0.0611	0.002	100.06
X-Ray -231	orange	41.979	0.675	21.3269	2.08	20.06	4.338	0.5232	9.38	0	0.1225	0	100.48
X-Ray -232	orange	42.088	0.4579	21.3944	2.0058	19.931	4.345	0.4096	9.522	0.047	0.0943	0.017	100.31
X-Ray -233	orange	42.124	0.8185	21.0492	1.2669	21.123	4.128	0.3151	9.18	0	0.1212	0	100.13
X-Ray -234	orange	42.383	0.3056	22.1329	1.8283	21.011	4.187	0.3326	8.232	0.024	0.0768	0	100.51
X-Ray -235	orange	42.478	0.2021	22.8484	1.1371	21.617	3.914	0.3643	7.627	0.012	0.0504	0	100.25
X-Ray -236	orange	42.681	0.7023	22.3623	0.1161	21.778	3.866	0.2419	8.711	0.022	0.103	0	100.58
X-Ray -237	orange	42.192	0.841	20.7671	1.2654	20.846	4.006	0.318	9.574	0.043	0.1036	0	99.956
X-Ray -238	orange	42.016	0.3379	21.8239	1.8455	19.889	4.656	0.451	9.184	0.025	0.0412	9E-04	100.27

X-Ray Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
X-Ray -239	orange	41.733	0.6309	21.1587	2.0221	19.93	4.362	0.4663	9.413	0.021	0.1284	0	99.864
X-Ray -240	orange	39.429	0.0619	22.0611	0.0465	9.2008	7.522	0.5056	21.72	0.022	0.0251	0	100.59
X-Ray -241	orange	42.292	0.2038	22.7231	1.2792	21.243	4.034	0.3997	8.156	0.033	0.0475	0	100.41
X-Ray -242	orange	42.437	0.2209	22.6506	1.2511	21.171	4.004	0.3968	8.178	0.006	0.0497	0	100.36
X-Ray -243	orange	42.409	0.8417	21.047	1.2488	20.994	4.139	0.3068	9.438	0	0.1101	0	100.53
X-Ray -244	orange	42.234	0.7593	20.9127	1.5341	20.942	4.144	0.3056	8.738	0.016	0.0957	0	99.682
X-Ray -245	orange	41.82	0.4553	21.5629	2.113	19.99	4.196	0.4482	9.562	0	0.0909	0	100.24
X-Ray -246	orange	42.443	0.5483	21.734	0.8437	21.282	3.966	0.3002	8.666	0	0.0713	0	99.855
X-Ray -247	orange	42.472	0.8937	21.2223	1.2063	20.979	4.191	0.331	9.352	0.024	0.1065	0	100.78
X-Ray -249	orange	41.888	0.6169	21.2817	1.7782	19.91	4.141	0.4155	9.941	0	0.1242	0.03	100.13
X-Ray -250	orange	42.209	0.3984	21.7836	1.995	20.277	3.94	0.4754	9.305	0.01	0.0936	0	100.49
X-Ray -251	orange	42.443	0.1632	22.4174	1.5153	21.736	3.884	0.3804	7.195	0	0.0474	0.011	99.792
X-Ray -252	orange	41.766	0.1541	20.3665	4.4039	20.668	4.718	0.4114	7.592	0	0.0408	0	100.12
X-Ray -253	orange	42.145	0.203	22.7598	1.1768	21.318	4.033	0.3971	7.948	0	0.0503	0.008	100.04
X-Ray -254	orange	42.571	0.4125	20.7083	2.3727	21.358	4.36	0.3339	8.218	0.049	0.0475	0.013	100.44
X-Ray -255	orange	42.004	0.3675	21.2827	2.8249	20.796	3.53	0.3688	9.113	0.006	0.0829	0	100.38
X-Ray -256	orange	42.388	0.3968	20.4037	2.7123	21.331	4.467	0.2971	8.033	0.053	0.0635	0.025	100.17
X-Ray -258	orange	41.774	0.6488	21.0921	2.1098	19.942	4.306	0.4369	9.469	0.021	0.1212	0	99.92
X-Ray -259	orange	42.107	0.8628	21.0616	1.2634	20.832	4.075	0.3097	9.232	0.009	0.0965	0	99.848
X-Ray -260	orange	42.547	0.756	21.1813	1.5399	21.271	4.145	0.3453	8.865	0.035	0.1002	0.017	100.8
X-Ray -261	orange	41.906	0.6687	21.1895	2.0684	19.914	4.453	0.5135	9.498	0	0.116	0	100.33
X-Ray -262	orange	42.415	0.1868	22.5487	1.2786	21.503	3.971	0.4512	7.989	0	0.0397	0.036	100.42
X-Ray -263	orange	42.216	0.4082	21.7855	2.1506	20.457	3.943	0.4796	9.284	0.068	0.0781	0.031	100.9
X-Ray -264	orange	42.46	0.3921	20.6587	2.3385	21.391	4.357	0.3154	8.373	0.012	0.0646	0	100.36
X-Ray -265	orange	42.251	0.3013	21.7305	2.0749	21.071	3.946	0.4503	8.762	0.009	0.0618	0	100.66
X-Ray -266	orange	41.9	0.5171	21.6537	1.6913	20.472	3.918	0.4288	9.27	0	0.0994	0.005	99.955
X-Ray -267	orange	41.884	0.6688	21.1655	2.1589	19.994	4.363	0.4797	9.402	0.002	0.134	0	100.25
X-Ray -268	orange	42.185	0.2991	21.6036	2.0492	20.856	3.916	0.4008	8.438	0.033	0.0539	0	99.834
X-Ray -269	orange	42.465	0.3554	22.1961	1.6919	21.289	3.771	0.4323	8.318	0.028	0.0685	0.028	100.64
X-Ray -270	orange	42.4	0.8979	21.0807	1.2652	21.218	4.09	0.3899	9.445	0.058	0.109	0	100.95
X-Ray -271	orange	42.454	0.4454	21.1541	2.0414	21.22	4.216	0.3257	7.979	0	0.057	0.016	99.907
X-Ray -272	orange	42.092	0.218	22.6558	1.2333	20.615	4.185	0.4338	8.563	0.027	0.0652	0	100.09
X-Ray -273	orange	41.93	0.6008	21.672	1.8622	19.975	4.176	0.4331	9.632	0.037	0.1103	0	100.43
X-Ray -274	red	42.231	0.1978	19.6381	4.0735	20.583	5.119	0.291	8.009	0.03	0.0114	0.018	100.2
X-Ray -275	red	42.726	0.3398	20.3269	3.3259	21.418	4.622	0.2828	7.794	0	0.0591	0	100.89
X-Ray -276	red	42.568	0.4953	20.993	2.247	21.304	4.218	0.2064	8.2	0.022	0.0586	0.002	100.31
X-Ray -277	red	41.983	0.3705	18.5486	5.2038	20.629	5.259	0.3814	7.989	0.001	0.0452	0	100.41
X-Ray -278	red	42.047	0.1451	21.6418	2.3479	20.373	4.602	0.3567	8.547	0	0.0318	0.02	100.11
X-Ray -279	red	42.349	0.2012	22.0114	2.3146	20.355	4.515	0.3811	8.617	0	0.0322	0	100.78
X-Ray -280	red	42.142	0.3183	19.7564	4.8501	21.159	4.991	0.3126	6.7	0	0.0297	0	100.26
X-Ray -281	red	42.524	0.314	20.393	4.0999	21.612	4.854	0.3243	6.813	0.013	0.0433	0	100.99
X-Ray -282	red	42.405	0.4207	22.0924	0.1469	21.128	4.198	0.3176	9.391	0.043	0.0477	0	100.19
X-Ray -283	red	42.362	0.2148	22.2553	2.0097	21.245	4.141	0.3886	7.974	0.031	0.0604	0	100.68
X-Ray -284	red	42.408	0.352	21.6113	2.0637	21.113	3.915	0.411	8.534	0.039	0.0548	0	100.5
X-Ray -285	orange	42.289	0.9091	20.8619	1.2268	21.054	4.088	0.3384	9.375	0.003	0.1127	0.003	100.26
X-Ray -286	orange	41.961	0.653	21.3206	2.061	20.175	4.26	0.4644	9.46	0.033	0.1334	0.045	100.57
X-Ray -287	orange	42.419	0.8949	21.0066	1.2247	20.868	4.114	0.3086	9.22	0.025	0.1028	0.011	100.2
X-Ray -288	orange	41.7	0.1901	20.2602	4.3249	20.05	4.858	0.4472	8.026	0.028	0.0221	0	99.906
X-Ray -290	orange	42.142	0.3875	21.6153	2.1472	20.449	4.001	0.4319	9.373	0	0.0909	0.041	100.68
X-Ray -291	orange	38.859	0.1064	21.0542	0.0591	8.0213	6.126	0.8253	25.03	0.035	0.0092	0	100.13
X-Ray -292	orange	42.646	0.1815	22.7492	1.5715	21.911	4.039	0.3564	7.34	0.018	0.0371	0	100.85
X-Ray -293	orange	42.631	0.3662	20.8116	2.3665	21.269	4.348	0.2889	8.161	0.03	0.0527	0	100.32
X-Ray -294	orange	41.611	0.5322	20.9028	2.6781	19.817	4.469	0.4884	9.412	0.013	0.115	0.029	100.07
X-Ray -295	orange	42.203	0.4729	22.0407	0.1048	21.047	4.191	0.2323	9.189	0.021	0.0345	0	99.536
X-Ray -296	orange	42.341	0.378	20.1964	3.0801	21.299	4.486	0.303	7.98	0.015	0.0584	0.011	100.15
X-Ray -297	orange	42.647	0.2058	22.753	1.3023	21.651	3.991	0.3764	7.687	0	0.0463	0.01	100.67
X-Ray -298	orange	41.837	0.3922	21.0638	2.8484	20.665	3.599	0.4006	8.904	0.013	0.086	0	99.809

X-Ray Chromite

Sample	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
X-Ray -1	0.0655	3.1029	0	0	6.368	52.861	0.217	10.534	0.034	0.215	25.624	0.197	0.135	99.35	6.785	19.52	100.03
X-Ray -2	0.0718	0.5293	0.0102	0.0094	7.634	58.033	0.4	11.721	0.074	0.391	20.38	0.096	0.013	99.36	5.034	15.85	99.867
X-Ray -3	0.0432	3.0048	0	0.0161	6.506	53.124	0.314	10.778	0.034	0.19	25.123	0.137	0.082	99.35	6.432	19.34	99.997
X-Ray -4	0.0224	0.0874	0.0141	0	10.912	58.286	0.238	11.786	0.027	0.229	17.394	0.091	0.218	99.3	2.079	15.52	99.512
X-Ray -6	0.0222	2.9031	0	0.0243	0.471	49.582	0.663	6.4486	0.024	0.338	37.533	0.2	0.195	98.4	13.974	24.96	99.804
X-Ray -10	0.0488	1.2827	0	0	4.778	56.008	0.258	9.4854	0.037	0.297	26.383	0.141	0.15	98.87	8.095	19.1	99.679
X-Ray -15	0.0969	2.3415	0	0.0161	7.130	53.528	0.234	10.653	0.045	0.284	25.012	0.117	0.042	99.5	6.709	18.98	100.17
X-Ray -17	0.0422	0.6208	0.0484	0.0208	8.208	58.600	0.186	12.067	0.047	0.007	19.504	0.131	0.127	99.61	4.434	15.51	100.05
X-Ray -18	0.0476	0.5726	0	0	7.528	59.662	0.177	12.148	0	0.208	18.662	0.026	0.106	99.14	4.077	14.99	99.545
X-Ray -21	0.0362	0.2079	0.0281	0	10.586	59.004	0.088	11.871	0.053	0.316	17.286	0.031	0.152	99.66	2.139	15.36	99.874
X-Ray -40	0.0453	1.4995	0.0038	0	3.898	60.964	0.082	11.168	0.037	0.295	20.722	0.143	0.058	98.92	4.859	16.35	99.403
X-Ray -41	0.0468	3.4535	0	0.0073	1.402	50.697	0.572	7.6475	0.017	0.453	33.946	0.197	0.089	98.53	11.455	23.64	99.675
X-Ray -46	0.0377	0.5832	0.0279	0.0167	5.151	62.333	0.078	11.89	0.019	0.332	18.702	0.124	0.159	99.45	4.439	14.71	99.898
X-Ray -47	0.0038	0.1124	0	0.0155	9.984	57.520	0.244	11.373	0.028	0.175	19.28	0.112	0.029	98.88	3.531	16.1	99.231
X-Ray -65	0	1.9475	0	0	0.273	44.695	0.652	5.4605	0.004	0.446	44.402	0.133	0.13	98.14	20.900	25.6	100.24
X-Ray -78	0.0359	4.9031	0.0063	0	4.076	51.267	0.221	10.21	0	0.245	28.292	0.278	0.082	99.62	7.739	21.33	100.39
X-Ray -82	0.0161	0.072	0	0	10.480	59.049	0.355	11.974	0.069	0.424	16.777	0.063	0	99.28	1.665	15.28	99.445

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
X-Ray -1	core	0.0294	52.86	0.0889	0.0039	0.2298	2.703	0	12.13	0.003	0.41	31.054	0.2	0	99.715	6.243704	25.44	100.34	51.007	43.357	5.636	100
X-Ray -2	core	0	52.3	0.0725	0.0072	0.1052	2.238	0.0746	11.31	0.034	0.47	32.946	0.128	0	99.687	7.238689	26.43	100.41	53.021	40.440	6.539	100
X-Ray -3	core	0.012	52.945	0.0533	0.0155	0.0993	2.238	0.272	11.3	0.004	0.326	32.196	0.115	0.098	99.67	5.260615	27.46	100.2	54.957	40.295	4.748	100
X-Ray -4	core	0.0103	52.714	0.0844	0.0446	0.1128	2.645	0.0135	11.84	0.024	0.333	31.099	0.122	0.069	99.107	5.756268	25.92	99.684	52.213	42.535	5.252	100
X-Ray -5	core	0.0254	52.767	0.1142	0.0381	0.118	2.384	0	11.62	0	0.257	31.937	0.112	0.082	99.449	6.053177	26.49	100.06	53.037	41.480	5.482	100
X-Ray -6	core	0.0121	52.979	0.0174	0.0337	0.3313	3.069	0	12.18	0.014	0.211	30.261	0.13	0.059	99.299	5.20217	25.58	99.82	51.509	43.752	4.739	100
X-Ray -7	core	0.0044	53.396	0.0174	0.0375	0.1747	2.598	0.0502	12.09	0.067	0.414	30.938	0.147	0	99.932	5.537063	25.96	100.49	51.886	43.105	5.009	100
X-Ray -8	core	0.0143	52.92	0.056	0.0227	0.3088	2.809	0	12.11	0	0.272	30.775	0.205	0.048	99.543	5.771141	25.58	100.12	51.386	43.380	5.233	100
X-Ray -9	core	0	53.44	0.0771	0.0149	0.147	2.118	0.0215	11.73	0	0.3	32.062	0.086	0.096	100.09	5.833013	26.81	100.67	53.254	41.522	5.224	100
X-Ray -10	core	0.0131	53.025	0.0535	0.0343	0.0525	2.36	0	11.42	0	0.297	31.792	0.049	0.109	99.202	5.336065	26.99	99.736	54.235	40.914	4.851	100
X-Ray -11	core	0.0447	52.321	0.0398	0.0486	0.2346	2.088	0.4062	11.33	0.02	0.307	32.202	0.08	0	99.121	5.54005	27.22	99.676	54.499	40.472	5.028	100
X-Ray -12	core	0.0189	52.843	0.1232	0	0.1331	2.478	0.1581	11.69	0.048	0.333	31.771	0.128	0	99.725	5.780367	26.57	100.3	53.136	41.663	5.201	100
X-Ray -13	core	0.0122	52.656	0.0673	0	0.3675	3.129	0	12.25	0.037	0.202	30.445	0.186	0.013	99.363	5.862105	25.17	99.95	50.713	43.973	5.314	100
X-Ray -14	core	0.0062	52.475	0.0747	0	0.1193	2.279	0.0615	11.68	0.057	0.324	31.791	0.006	0	98.876	6.27209	26.15	99.505	52.517	41.816	5.668	100
X-Ray -15	core	0.0004	52.234	0.0286	0.0298	0.2676	2.46	0	11.25	0	0.294	32.553	0.175	0.032	99.325	6.750441	26.48	100	53.394	40.458	6.148	100
X-Ray -16	core	0.0151	52.77	0.0398	0.0078	0.1647	2.317	0	11.56	0.059	0.419	31.636	0	0	98.986	5.792975	26.42	99.567	53.237	41.506	5.257	100
X-Ray -17	core	0.0196	52.624	0.0846	0.0052	0.0394	2.385	0.0037	11.4	0.029	0.35	32.405	0.114	0	99.454	6.407205	26.64	100.1	53.458	40.754	5.789	100
X-Ray -18	core	0.0097	52.652	0.0561	0	0.3293	2.977	0	12.13	0.02	0.38	30.765	0.135	0	99.451	6.111101	25.27	100.06	50.910	43.550	5.540	100
X-Ray -19	core	0.0166	53.128	0.0412	0.0454	0.2643	2.552	0.0617	12.44	0.051	0.254	30.213	0.137	0.043	99.242	5.444152	25.31	99.787	50.661	44.402	4.937	100
X-Ray -20	core	0.0054	53.199	0.0723	0.0169	0.1936	2.516	0.169	12.29	0.048	0.341	30.252	0.07	0	99.173	4.916213	25.83	99.665	51.704	43.855	4.441	100
X-Ray -21	core	0	52.823	0.1134	0.0097	0.1079	2.337	0.158	11.57	0.021	0.326	32.077	0.121	0.088	99.749	5.959715	26.71	100.35	53.409	41.223	5.368	100
X-Ray -22	core	0.0197	52.809	0.076	0	0.0868	2.326	0.0695	11.43	0	0.276	32.017	0.056	0.051	99.213	5.616691	26.96	99.776	54.086	40.845	5.069	100
X-Ray -23	core	0.0241	52.828	0.0524	0	0.3175	2.726	0.1029	12.09	0.013	0.298	30.61	0.155	0	99.22	5.41647	25.74	99.763	51.758	43.341	4.901	100
X-Ray -24	core	0.0183	53.114	0.0723	0.0428	0.1447	2.447	0.1381	11.56	0	0.439	32.002	0.113	0.125	100.22	5.7316	26.85	100.79	53.625	41.191	5.184	100
X-Ray -25	core	0.0133	52.758	0.0188	0.0026	0.2899	2.59	0.1427	12.29	0	0.291	30.566	0.165	0.072	99.201	5.867293	25.29	99.789	50.745	43.956	5.299	100
X-Ray -26	core	0.0017	52.932	0.0549	0.0552	0.0906	2.247	0.0627	11.81	0.023	0.178	31.894	0.134	0.048	99.532	6.141282	26.37	100.15	52.496	41.960	5.544	100
X-Ray -27	core	0.0203	52.991	0.0424	0	0.2978	2.937	0.1906	12.25	0.022	0.219	30.572	0.142	0	99.685	5.299085	25.8	100.22	51.586	43.648	4.766	100
X-Ray -28	core	0	53.077	0.106	0.0772	0.0777	2.343	0.0165	11.58	0	0.359	31.908	0.056	0.107	99.706	5.70324	26.78	100.28	53.506	41.307	5.187	100
X-Ray -29	core	0.0165	52.937	0.0574	0	0.308	2.749	0.0374	12.29	0.016	0.342	30.722	0.177	0.035	99.689	6.056428	25.27	100.3	50.645	43.894	5.460	100
X-Ray -30	core	0.0119	50.367	0.1197	0.0013	0.1591	3.497	0.5155	10.68	0.006	0.349	33.687	0.129	0.027	99.553	7.760183	26.7	100.33	54.238	38.669	7.092	100
X-Ray -31	core	0.0233	52.284	0.0574	0.0156	0.0721	2.36	0.0739	11.09	0	0.357	32.95	0.096	0.003	99.381	6.595348	27.02	100.04	54.294	39.730	5.976	100
X-Ray -32	core	0.0206	53.25	0.035	0	0.1536	2.593	0	12.23	0	0.326	30.644	0.098	0.013	99.361	5.468903	25.72	99.909	51.474	43.602	4.924	100
X-Ray -33	core	0.0142	53.265	0.0399	0.0156	0.0365	2.302	0	11.2	0	0.459	32.299	0.035	0	99.669	5.327741	27.5	100.2	55.141	40.041	4.817	100
X-Ray -34	core	0	52.818	0.0949	0	0.3072	2.807	0	12.08	0	0.329	30.79	0.188	0	99.413	5.813809	25.56	99.996	51.425	43.312	5.263	100
X-Ray -35	core	0.0173	52.818	0.1497	0	0.1136	2.174	0.1726	11.52	0	0.321	32.265	0.12	0	99.672	5.87292	26.98	100.26	53.795	40.936	5.268	100
X-Ray -36	core	0.0212	52.682	0.0799	0.0104	0.1574	2.833	0.1404	12.05	0	0.317	31.088	0.202	0.032	99.617	5.999203	25.69	100.22	51.503	43.077	5.419	100
X-Ray -37	core	0.0215	52.834	0.07	0	0.2635	2.679	0.0239	12.26	0.032	0.274	30.565	0.176	0.067	99.269	5.905639	25.25	99.86	50.746	43.914	5.340	100
X-Ray -38	core	0.0098	52.987	0.0437	0	0.1983	2.666	0	12.39	0.026	0.209	30.658	0.119	0.07	99.373	6.051212	25.21	99.98	50.418	44.138	5.444	100
X-Ray -39	core	0.039	52.63	0.1098	0	0.114	2.15	0.0009	11.18	0	0.381	32.656	0.133	0.024	99.413	6.236463	27.04	100.04	54.345	40.017	5.638	100
X-Ray -40	core	0.0157	53.347	0.1135	0.0065	0.0936	2.643	0.0323	11.91	0	0.346	30.711	0.116	0	99.333	4.693745	26.49	99.803	53.161	42.595	4.243	100
X-Ray -41	core	0.0111	52.682	0.1247	0.0208	0.0235	2.273	0.0188	11.13	0	0.426	32.779	0.062	0	99.554	6.160161	27.24	100.17	54.621	39.805	5.574	100
X-Ray -43	core	0.0131	52.814	0.0786	0.0188	0.1123	2.371	0.0986	11.45	0.026	0.39	31.894	0.111	0.019	99.392	5.648231	26.81	99.958	53.874	41.006	5.121	100
X-Ray -44	core	0.0173	53.249	0.0599	0.0032	0.0943	2.449	0	11.62	0	0.395	31.478	0.063	0.021	99.452	5.219803	26.78	99.975	53.730	41.556	4.714	100
X-Ray -45	core	0.038	52.928	0.045	0	0.2263	2.777	0.0491	11.97	0.027	0.233	31.002	0.099	0	99.391	5.474397	26.08	99.939	52.292	42.769	4.939	100
X-Ray -46	core	0.0031	52.792	0.0775	0.0169	0.3029	2.789	0	12.09	0.029	0.35	30.641	0.091	0.091	99.271	5.743555	25.47	99.846	51.344	43.434	5.222	100
X-Ray -47	core	0.0395	53.249	0.0562	0	0.2346	2.652	0.0017	12.38	0.058	0.238	30.311	0.12	0.024	99.361	5.362995	25.49	99.899	51.015	44.155	4.830	100
X-Ray -48	core	0.0034	49.082	0.2018	0	0.0272	2.623	0.1455	8.775	0	0.439	37.031	0.136	0.053	98.517	9.669919	28.33	99.486	58.634	32.362	9.004	100
X-Ray -49	core	0.0332	53.078	0.0325	0.0247	0.2234	2.724	0.0987	12.42	0	0.287	30.407	0.151	0.04	99.522	5.598743	25.37	100.08	50.690	44.258	5.052	100
X-Ray -50	core	0.0063	52.732	0.0776	0.0371	0.1694	2.225	0.0242	11.8	0.034	0.323	31.652	0.127	0.04	99.249	6.265867	26.01	99.877	52.133	42.188	5.679	100
X-Ray -51	core	0.0193	52.292	0.0775	0.0644	0.2196	3.47	0	12.05	0.007	0.248	30.523	0.178	0.118	99.271	5.964649	25.16	99.869	50.941	43.573	5.486	100
X-Ray -52	core	0.0241	53.194	0.0624	0.0104	0.1296	2.417	0	11.71	0.033	0.325	32.117	0.107	0	100.13	6.139154	26.59	100.75	52.936	41.557	5.506	100
X-Ray -53	core	0.0052	52.629	0.0911	0.0013	0.1136	2.396	0.1379	11.42	0.004	0.309	31.948	0.086	0.005	99.146	5.616668	26.89	99.708	54.034	40.888	5.078	100
X-Ray -54	core	0.0047	52.829	0.0612	0	0.1434	2.188	0.1377	11.41	0.008	0.394	31.965	0.041	0.035	99.216	5.533451	26.99	99.77	54.181	40.821	4.998	100
X-Ray -55	core	0.007	53.781	0	0.0007	0.3187	2.872	0	12.26	6E-04	0.396	30.364	0.151	0.037	100.19	4.917322	25.94	100.68	51.874	43.701	4.425	100
X-Ray -56	core	0.0068	52.961	0.075	0.0442	0.1737	2.726	0.0878	12.13	0	0.468	30.727	0.142	0.088	99.628	5.719505	25.58	100.2	51.360	43.439	5.201	100
X-Ray -57	core	0	55.057	0.0798	0	0.1703	2.354	0	11.59	0.015	0.464	31.785	0.082	0	101.59	3.782533	28.38	101.97	55.947	40.698	3.355	100
X-Ray -58	core	0.0248	52.546	0.1048	0.0779	0.0487	2.17	0	11.01	0	0.364	33.016	0.065	0.013	99.438	6.256733	27.39	100.06	54.899	39.397	5.704	100
X-Ray -59	core	0	52.604	0.0463	0.0397	0.2915	2.631	0.051	12.21	0	0.244	31.03	0.185	0.075	99.411	6.475825	25.2	100.06	50.485	43.647	5.868	100
X-Ray -60	core	0.0317	52.789	0.0613	0	0.1708	2.802	0.0325	12.44	0.011	0.36	31.228	0.076	0	99.999	6.910575	25.01	100.69	49.737	44.080	6.183	100
X-Ray -61	core	0.0402	52.677	0.0537	0.0533	0.1721	2.181	0.0239	11.29	0.052	0.287	32.024	0.216	0.005	99.078	5.7456	26.85	99.654	54.130	40.618	5.252	100
X-Ray -62	core	0.0071	53.202	0.0162	0.0143	0.2012	2.643	0.1078	12.15	0	0.251	30.794	0.07	0.013	99.471	5.25865	26.06	99.997	52.028	43.238	4.734	100
X-Ray -63	core	0.0176	45.917	0.4994	0.065	0	1.455	0.363	6.795	0.026	0.413	42.728	0.066	0.005	98.351	14.32317	29.84	99.786	61.603	25.031	13.366	100
X-Ray -64	core	0.0279	49.623	0.1646	0	0	2.743	0.1274	9.17	0.034	0.434	36.27	0.074	0.091	98.757	9.120241	28.06	99.67	57.854	33.687	8.459	100
X-Ray -65	core	0.0449	52.612	0.04	0.0293	0.2036	2.873	0	12.23	0.022	0.284	30.528	0.192	0.153	99.205	6.137014	25.01	99.82	50.433	43.975	5.592	100
X-Ray -66	core	0.015	52.928	0.0475	0	0.1292	2.396	0.0468	11.68	0.057	0.268	31.961	0.079	0.096	99.707	6.165952	26.41	100.32	52.816	41.636	5.547	100
X-Ray -67	core	0.0115	53.163	0.0538	0.0358	0.2103	2.532	0.0541	12.51	0.014	0.217	30.528	0.078	0.003	99.41	5.721084	25.38	99.983	50.477	44.376	5.147	100
X-Ray -68	core	0.0255	52.931	0.1099	0.0163	0.1074	2.135	0.0378	11.13	0.007	0.18	33.019	0.062	0	99.761	5.877206	27.73	100.35	55.212	39.510	5.277	100
X-Ray -69	core	0.027	52.472	0.0626	0.03	0.2705	3.368	0.0642	12.21	0.053	0.169	30.248	0.128	0.059	99.166	5.578878	25.23	99.724	50.935	43.974	5.091	100
X-Ray -70	core	0.0383	53.295	0.0989	0.0665	0.3125	2.679	0	12.29	0	0.212	30.752	0.199	0.019	99.965	5.51364	25.79	100.52	51.334	43.677	4.989	100
X-Ray -71	core	0.0048	52.9	0.0538	0	0.2009	2.687	0.1045	12.06	0.053	0.303	30.846	0.151	0	99.363	5.618222	25.79	99.926	51.781	43.145	5.075	100
X-Ray -72	core	0.0087	52.778	0	0	0.2715	2.465	0.0935	12.19	0	0.297	31.138	0.093	0	99.336	6.261404	25.5	99.963	50.962	43.409	5.629	100
X-Ray -73	core	0.0225	53.343	0.0876	0.013	0.2218	2.554	0.1757	12.54	0.045	0.298	30.278	0.107	0.072	99.76	5.311656	25.5	100.29	50.741	44.493	4.765	100
X-Ray -74	core	0.0088	48.813	0.1808	0.0033	0.0502	2.797	0.1533	8.725	0.033	0.353	37.764	0.047	0	98.928	10.45929	28.35	99.976	58.329	31.987	9.684	100
X-Ray -75	rim	0.0101	52.639	0.0751	0	0.1568	2.291	0.2055	11.93	0.046	0.351	31.562	0.095	0	99.359	6.189176	25.99	99.98	51.953	42.481	5.566	100
X-Ray -76	core	0.0201	52.85	0.0575	0.0052	0.0755	2.414	0.0855	11.44	0.066	0.345	31.785	0.093	0.054	99.292	5.549833	26.79	99.848	53.926	41.044	5.030	100
X-Ray -77	rim	0.0121	52.877	0.085	0.0397	0.0742	2.185	0	11.57	0	0.346	32.245	0.009	0.075	99.518	6.230633	26.64	100.14	53.175	41.198	5.627	100
X-Ray -78	core	0.0372	52.418	0.0762	0	0.0479	2.255	0	11.25	0.005	0.373	32.694	0.066	0.016	99.238	6.600777	26.75	99.899	53.755	40.279	5.967	100
X-Ray -79	rim	0.0228	50.627	0.1126	0.0117	0.0767	3.571	0.1466	11.07	0.029	0.302	33.097	0.135	0.11	99.314	8.318424	25.61	100.15	52.164	40.204	7.632	100
X-Ray -80	core	0.0192	50.882	0.1737	0.015	0.1564	3.613	0.0927	10.64	0.021	0.48	33.18	0.102	0.136	99.507	7.494043	26.44	100.26	54.201	38.873	6.925	100
X-Ray -81	rim	0.0112	52.611	0.0838	0.03	0.1364	2.453	0.0768	11.67	0	0.382	31.978	0.107	0.043	99.586	6.393851	26.22	100.23	52.522	41.693	5.785	100

X-Ray Ilmenite

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikeiite	hematite	Total
X-Ray -82	core	0.0316	53.055	0.0625	0.0026	0.1601	2.449	0	11.53	0.027	0.36	31.572	0.071	0.048	99.37	5.349461	26.76	99.906	53.822	41.335	4.843	100
X-Ray -83	rim	0.0269	53.386	0.0038	0.0143	0.4723	2.876	0	12.51	0.041	0.351	30.155	0.15	0.067	100.05	5.562848	25.15	100.61	50.341	44.639	5.021	100
X-Ray -84	core	0.0347	52.751	0.0075	0.0007	0.3659	2.803	0.1847	12.42	0.017	0.288	30.305	0.194	0	99.375	5.739583	25.14	99.95	50.420	44.400	5.179	100
X-Ray -5*	core	0.0225	53.089	0.0161	0.0142	0.2776	2.628	0	12.05	0	0.283	30.957	0.113	0	99.455	5.601816	25.92	100.02	51.905	43.036	5.059	100
X-Ray -7*	core	0.0367	52.928	0.0582	0.0161	0.1683	2.666	0.0696	11.82	0	0.311	31.185	0.121	0.008	99.387	5.40459	26.32	99.929	52.822	42.286	4.892	100
X-Ray -8*	core	0.0356	53.341	0.0843	0	0.2067	2.654	0.0962	12.21	0	0.274	30.639	0.136	0.05	99.727	5.108185	26.04	100.24	51.983	43.429	4.587	100
X-Ray -9*	core	0.0222	52.795	0.0595	0	0.167	2.592	0.1563	11.93	0	0.313	31.27	0.139	0	99.446	5.744308	26.1	100.02	52.257	42.568	5.174	100
X-Ray -11*	core	0.032	52.558	0.0161	0.0523	0.1961	2.731	0.1489	11.99	0	0.289	30.862	0.12	0.027	99.022	5.63705	25.79	99.586	51.849	43.011	5.140	100
X-Ray -12*	core	0.0323	52.796	0.0743	0.0084	0.0862	2.444	0.0535	11.46	0	0.356	31.997	0.072	0	99.377	5.735311	26.84	99.952	53.840	40.977	5.183	100
X-Ray -13*	core	0	52.926	0.1003	0.0335	0.1361	2.497	0.1165	11.6	0.01	0.261	31.943	0.061	0.061	99.742	5.656501	26.85	100.31	53.606	41.288	5.106	100
X-Ray -14*	core	0.0132	53.034	0.0632	0	0.1691	2.285	0.0293	11.62	0	0.41	31.759	0.073	0.066	99.521	5.764186	26.57	100.1	53.282	41.518	5.200	100
X-Ray -16*	core	0	53.042	0.0582	0.0142	0.0876	2.307	0.1624	11.41	0.033	0.293	31.915	0.043	0.011	99.381	5.131211	27.3	99.895	54.642	40.726	4.632	100
X-Ray -19*	core	0.023	52.803	0	0.042	0.3155	2.602	0.1952	12.08	0.009	0.318	30.518	0.166	0	99.068	5.205138	25.83	99.589	51.944	43.315	4.741	100
X-Ray -20*	core	0.0312	52.675	0.067	0.0219	0.122	2.823	0	11.95	0.014	0.267	31.42	0.105	0	99.491	6.228828	25.82	100.12	51.707	42.663	5.630	100
X-Ray -22*	core	0.0226	53.308	0.0558	0.0013	0.1564	2.458	0.2329	11.89	0.046	0.293	31.463	0.096	0.032	100.05	5.25167	26.74	100.58	53.177	42.123	4.700	100
X-Ray -23*	core	0.0227	53.229	0.0298	0	0.2749	2.973	0	12.25	0.065	0.319	30.521	0.08	0.035	99.794	5.480694	25.59	100.34	51.304	43.752	4.944	100
X-Ray -24*	core	0.0401	52.998	0.0633	0.0368	0.3498	2.994	0.119	12.16	0.034	0.271	30.58	0.138	0	99.786	5.241913	25.86	100.31	51.801	43.447	4.752	100
X-Ray -25*	core	0.0188	52.838	0.0498	0	0.1548	2.772	0	11.99	0.017	0.184	31.481	0.133	0.059	99.694	6.266558	25.84	100.32	51.662	42.702	5.636	100
X-Ray -26*	core	0.0103	54.138	0.0545	0.0148	0.1642	2.718	0	12.07	0.021	0.263	30.761	0.138	0	100.35	4.369381	26.83	100.79	53.321	42.761	3.918	100
X-Ray -27*	core	0.0224	53.166	0.0781	0.0103	0.1669	2.45	0.0733	12.02	0	0.454	30.995	0.159	0	99.59	5.530756	26.02	100.14	52.110	42.898	4.992	100
X-Ray -28*	core	0.0147	54.433	0.0694	0.0316	0.1405	2.73	0	11.99	0.008	0.406	30.561	0.167	0.053	100.61	3.886897	27.06	101	53.897	42.595	3.508	100
X-Ray -29*	core	0	54.24	0.0447	0.0039	0.1514	2.357	0.0076	13.58	0.015	0.254	29.001	0.157	0.104	99.911	5.416363	24.13	100.45	47.532	47.664	4.804	100
X-Ray -30*	core	0.0139	53.022	0.0744	0	0.1037	2.65	0.0264	11.74	0.007	0.36	31.49	0.103	0	99.593	5.63444	26.42	100.16	52.967	41.951	5.082	100
X-Ray -31*	core	0.0351	53.789	0.0572	0.0485	0.1943	2.471	0.1695	13.54	0	0.275	29.457	0.091	0	100.13	5.756441	24.28	100.7	47.559	47.330	5.111	100
X-Ray -32*	core	0.0343	54.776	0.0336	0.024	0.2988	2.838	0	14.9	0.006	0.219	26.363	0.2	0	99.69	4.426656	22.38	100.13	43.926	52.147	3.927	100
X-Ray -33*	core	0.0248	52.797	0.0942	0	0.1344	2.195	0.1694	11.65	0.022	0.362	32.506	0.108	0	100.06	6.547884	26.61	100.72	52.886	41.260	5.854	100
X-Ray -34*	core	0.0241	52.971	0.0373	0.0103	0.2305	2.709	0.0633	12.36	0.014	0.356	30.599	0.117	0	99.494	5.900392	25.29	100.09	50.596	44.085	5.319	100
X-Ray -35*	core	0.01	52.602	0.0533	0.0574	0.0799	2.149	0.0902	11.21	0	0.253	32.287	0.063	0	98.854	5.584849	27.26	99.414	54.746	40.164	5.090	100
X-Ray -36*	core	0.0063	52.873	0.0931	0	0.1673	2.651	0.2731	12.21	0.062	0.487	30.727	0.129	0.04	99.714	5.696191	25.6	100.28	51.288	43.578	5.134	100
X-Ray -37*	core	0.0269	53.029	0.0596	0	0.2472	2.649	0.1608	12.46	0.014	0.341	30.088	0.072	0	99.15	5.21624	25.39	99.673	50.838	44.464	4.698	100
X-Ray -38*	core	0.0281	52.391	0.0708	0.0297	0.1632	2.427	0.0351	11.6	0.024	0.351	32.074	0.162	0.016	99.375	6.677062	26.07	100.04	52.370	41.571	6.059	100
X-Ray -39*	core	0.0102	52.548	0.0695	0.0039	0.1723	2.62	0.0645	11.95	0.008	0.19	31.215	0.19	0.058	99.102	6.119384	25.71	99.715	51.661	42.804	5.535	100
X-Ray -42*	core	0.0587	52.906	0.1204	0.0517	0.0836	2.493	0.0124	11.79	0	0.316	31.371	0.067	0	99.266	5.478772	26.44	99.815	52.927	42.099	4.974	100
X-Ray -43*	core	0.06	53.102	0.0062	0.0233	0.0929	2.33	0.2007	11.93	0	0.389	31.61	0.11	0.056	99.908	5.838125	26.36	100.49	52.439	42.317	5.244	100
X-Ray -44*	core	0.0236	52.581	0.0633	0	0.0721	2.263	0.2062	11.19	0	0.249	32.672	0.134	0	99.456	5.880182	27.38	100.04	54.795	39.911	5.294	100
X-Ray -45*	core	0.0045	52.767	0.0782	0.0194	0.1055	2.668	0.1221	11.92	0	0.369	31.235	0.109	0.019	99.416	5.807157	26.01	99.998	52.143	42.604	5.253	100
X-Ray -48*	core	0.0202	52.36	0.0472	0	0.4838	3.342	0.2002	12.16	0	0.228	30.254	0.163	0	99.261	5.378997	25.41	99.8	51.332	43.780	4.888	100
X-Ray -49*	core	0.0102	52.87	0.0769	0.0129	0.095	2.389	0.1421	11.65	0	0.378	31.46	0.056	0.019	99.158	5.337035	26.66	99.692	53.496	41.675	4.829	100
X-Ray -50*	core	0.0118	53.083	0.051	0.0641	0.1496	2.69	0	12.03	0.032	0.303	30.753	0.093	0.037	99.299	5.351412	25.94	99.835	52.039	43.080	4.880	100
X-Ray -51*	core	0.0081	53.073	0.0968	0.0762	0.0728	2.538	0.035	11.66	0.05	0.339	31.578	0.061	0	99.583	5.409924	26.71	100.12	53.440	41.631	4.928	100
X-Ray -52*	core	0.0407	52.727	0.0509	0.0084	0.1266	2.176	0	11.06	0.014	0.413	32.206	0.127	0.082	99.03	5.577624	27.19	99.589	55.022	39.892	5.085	100
X-Ray -53*	core	0.0153	53.161	0.0646	0.0187	0.1024	2.485	0	12.17	0	0.288	30.519	0.08	0	98.901	5.184475	25.85	99.42	51.826	43.484	4.690	100
X-Ray -55*	core	0.0171	53.205	0.0621	0.0297	0.0625	2.257	0.0007	12.31	0.021	0.24	30.933	0.088	0.021	99.249	5.884541	25.64	99.839	51.016	43.693	5.291	100
X-Ray -56*	core	0.0108	53.064	0.067	0	0.0451	2.443	0.0433	11.87	0	0.351	31.815	0.105	0.114	99.932	6.291907	26.15	100.56	52.155	42.199	5.645	100
X-Ray -57*	core	0.0135	53.305	0.051	0.086	0.1762	2.608	0	12.38	0.016	0.389	30.463	0.019	0.003	99.508	5.439029	25.57	100.05	50.981	44.074	4.946	100
X-Ray -58*	core	0	53.355	0.0547	0.0149	0.1536	2.848	0	12.07	0.058	0.17	30.964	0.145	0.175	100.01	5.519366	26	100.56	51.991	43.031	4.977	100
X-Ray -59*	core	0.0107	52.778	0.0385	0	0.1205	2.461	0.2442	11.73	0.024	0.268	31.43	0.124	0	99.23	5.3945	26.58	99.77	53.252	41.885	4.863	100
X-Ray -60*	core	0.0196	53.022	0.041	0.0615	0.2342	2.547	0.2057	12.2	0.024	0.357	30.581	0.103	0	99.398	5.22798	25.88	99.922	51.722	43.530	4.749	100
X-Ray -61*	core	0.0279	53.092	0.0261	0	0.3913	3.009	0.2143	12.51	0.005	0.199	30.419	0.227	0.08	100.2	5.635407	25.35	100.77	50.513	44.435	5.052	100
X-Ray -62*	core	0.0345	52.765	0.0509	0	0.0844	2.282	0.1648	11.57	0	0.374	32.094	0.047	0	99.468	5.92645	26.76	100.06	53.471	41.201	5.328	100
X-Ray -63*	core	0	52.618	0.0062	0.0518	0.3813	3.153	0	12.39	0	0.319	30.384	0.192	0.024	99.519	6.261813	24.75	100.15	49.803	44.487	5.711	100
X-Ray -64*	core	0.0372	52.756	0.0547	0	0.1069	2.483	0	11.5	0.057	0.317	32.249	0.115	0.077	99.757	6.420082	26.47	100.4	53.093	41.114	5.793	100
X-Ray -66*	core	0.0235	53.438	0.0695	0	0.1059	2.357	0	11.61	0	0.341	31.889	0.037	0.027	99.896	5.360009	27.07	100.43	53.954	41.239	4.807	100
X-Ray -67*	core	0.0354	52.431	0.0769	0.0265	0.1331	1.774	0.0848	10.11	0	0.311	34.758	0.082	0.058	99.88	6.43819	28.96	100.52	58.050	36.125	5.826	100
X-Ray -68*	core	0.0157	52.846	0.0821	0.0097	0.2833	2.944	0	12.32	0	0.273	30.105	0.165	0	99.041	5.39481	25.25	99.582	50.872	44.231	4.897	100
X-Ray -69*	core	0.0111	52.853	0.0696	0	0.1236	2.369	0.1231	11.55	0.037	0.372	31.975	0.06	0.082	99.625	5.890941	26.67	100.21	53.447	41.243	5.311	100
X-Ray -70*	core	0.0131	53.236	0.0336	0.0278	0.196	2.727	0	11.99	0	0.397	30.994	0.099	0	99.701	5.447626	26.09	100.25	52.257	42.813	4.930	100
X-Ray -71*	core	0.0232	50.844	0.1391	0.0071	0.165	3.515	0.1072	10.67	0	0.298	32.956	0.149	0.098	98.968	7.137866	26.53	99.684	54.415	38.993	6.592	100
X-Ray -72*	core	0.021	53.007	0	0.0136	0.1751	2.72	0	12.07	0	0.29	30.862	0.056	0.029	99.242	5.602035	25.82	99.803	51.787	43.148	5.066	100
X-Ray -73*	core	0.0203	53.175	0.0621	0.0576	0.1249	2.188	0.1404	11.69	0	0.331	32.013	0.045	0	99.846	5.616234	26.96	100.41	53.526	41.413	5.061	100
X-Ray -74*	core	0	52.772	0.0212	0	0.3051	3.027	0	12.41	0	0.196	30.46	0.173	0.037	99.399	6.101345	24.97	100.01	50.116	44.375	5.509	100
X-Ray -75*	core	0.0278	53.123	0.0946	0	0.1571	2.548	0	11.84	0	0.316	31.756	0.136	0.008	100.01	6.018207	26.34	100.61	52.518	42.083	5.398	100
X-Ray -76*	core	0	53.499	0.0571	0.0446	0.1141	2.487	0	11.67	0	0.31	31.726	0.107	0	100.01	5.257582	27	100.54	53.788	41.465	4.747	100
X-Ray -77*	core	0.0178	52.648	0	0.0019	0.1441	2.451	0.0737	11.74	0	0.334	31.414	0.091	0.067	98.983	5.932278	26.08	99.578	52.499	42.126	5.375	100
X-Ray -79*	core	0.0214	52.855	0.0534	0	0.1084	2.356	0.1444	11.54	0	0.204	32.044	0.058	0	99.388	5.597003	27.01	99.949	53.910	41.064	5.026	100
X-Ray -80*	core	0.0179	52.985	0.0423	0.0097	0.1741	2.717	0.0962	12.39	0	0.261	30.928	0.103	0.011	99.731	6.114136	25.43	100.34	50.590	43.930	5.481	100
X-Ray -81*	core	0.0278	53.396	0.056	0.022	0.2093	2.615	0.0245	12.44	0.007	0.372	30.203	0.124	0.011	99.504	5.241979	25.49	100.03	50.944	44.325	4.731	100
X-Ray -83*	core	0.0175	52.704	0.0398	0.0414	0.0351	2.177	0.1434	11.34	8E-04	0.43	32.511	0.115	0.096	99.65	6.26288	26.88	100.28	53.823	40.502	5.675	100
X-Ray -84*	core	0.0335	52.326	0.0336	0.0065	0.2464	3.044	0	12.03	0	0.285	30.48	0.177	0	98.661	5.821278	25.24	99.244	51.199	43.483	5.317	100
X-Ray -85*	core	0.0208	52.917	0.061	0.0143	0.1419	2.792	0.1375	12.09	0.027	0.284	30.583	0.175	0.059	99.304	5.301419	25.81	99.836	51.875	43.321	4.804	100
X-Ray -86*	core	0.0186	53.263	0.1009	0	0.3383	2.899	0.0406	12.41	0.014	0.329	30.504	0.219	0	100.14	5.664131	25.41	100.71	50.735	44.177	5.089	100
X-Ray -87*	core	0.0008	54.773	0.0763	0.0273	0.3054	2.906	0	15.83	0.022	0.226	24.948	0.181	0	99.298	4.707467	20.71	99.769	40.550	55.283	4.167	100

* These ilmenite grains were mixed in with the X-Ray chromite analyses

X-Ray Pyroxene

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
X-Ray -1	55.223	0.4393	3.01591	2.4037	14.397	17.7	0.0973	3.839	0.01	3.4416	0	100.56
X-Ray -2	54.768	0.2209	2.73991	1.6617	16.315	18.54	0.0874	3.224	0	2.3327	0	99.885
X-Ray -3	54.491	0.2897	3.69975	0.2701	14.828	18.77	0.0746	4.178	0.036	2.7593	0	99.398
X-Ray -4	54.992	0.3152	4.34841	0.9024	15.327	15.63	0.0881	4.408	0.04	3.4341	0	99.488
X-Ray -5	55.102	0.1985	3.8695	1.1462	16.054	15.68	0.1351	4.312	0.064	3.0448	0	99.608
X-Ray -6	55.261	0.1855	3.87951	1.0938	16.047	15.69	0.162	4.695	0	3.0339	0	100.05
X-Ray -7	55.052	0.2038	3.89639	1.154	16.094	15.65	0.172	4.475	0.044	3.0619	0	99.805
X-Ray -8	55.156	0.1688	3.92096	1.136	16.028	15.71	0.1622	4.297	0.089	3.015	0	99.686
X-Ray -9	54.759	0.2306	2.66257	1.7982	16.182	18.57	0.1352	3.175	0.065	2.2775	0.024	99.881
X-Ray -10	55.148	0.2707	5.48579	0.77	14.218	14.96	0.0997	4.765	0.01	4.084	0	99.814
X-Ray -11	55.023	0.3207	5.46587	0.7991	14.209	15.02	0.1351	4.829	0	4.134	0.021	99.957
X-Ray -12	55.319	0.1863	3.97333	1.0519	16.114	15.75	0.1296	4.362	0.098	3.058	0	100.04
X-Ray -13	54.972	0.2141	2.54974	1.6302	16.136	19.08	0.087	3.115	0.038	2.2558	0.012	100.09
X-Ray -14	55.203	0.2003	3.91146	1.1013	16.102	15.81	0.1167	4.409	0.034	3.1097	7E-04	99.998
X-Ray -15	54.689	0.2778	2.65873	1.6836	16.13	18.94	0.1412	3.145	0.038	2.3325	0	100.04
X-Ray -16	55.12	0.1931	3.9523	1.0665	16.117	16.08	0.1695	4.374	0.056	3.0416	0.017	100.18
X-Ray -17	55.074	0.2542	2.69462	1.7275	16.056	18.76	0.0598	3.09	0.028	2.2963	0.04	100.08
X-Ray -18	54.525	0.2224	2.67349	1.5916	16.051	18.83	0.137	3.066	0.034	2.2724	0.032	99.439
X-Ray -19	55.13	0.1821	3.99891	1.1478	16.056	15.65	0.1482	4.415	0.081	3.1131	0.017	99.942
X-Ray -21	54.693	0.2153	3.79236	1.1437	16.211	15.81	0.1938	4.209	0.03	3.0552	7E-04	99.358
X-Ray -22	54.949	0.3948	2.2521	3.2894	15.345	17.84	0.0855	2.698	0.065	3.1239	0	100.05
X-Ray -23	55.61	0.1808	4.05957	1.1304	16.19	15.94	0.1112	4.369	0.055	3.0861	0.004	100.74
X-Ray -24	54.931	0.2492	2.77873	1.6666	16.071	18.97	0.0685	3.136	0.052	2.288	0.003	100.21
X-Ray -26	54.696	0.2468	2.73213	1.6056	15.945	18.84	0.0842	2.957	0.025	2.2911	0	99.418
X-Ray -27	54.934	0.3919	2.79734	2.2748	14.894	17.69	0.0955	3.735	0.041	3.1613	0	100.02
X-Ray -28	55.02	0.1793	2.35644	2.1117	16.076	19.3	0.0772	2.534	0.016	2.2215	0	99.891
X-Ray -29	54.867	0.4471	4.13398	2.2268	14.101	16.56	0.0713	3.475	0.072	3.8004	0	99.759
X-Ray -30	54.729	0.27	2.6471	1.7809	16.162	18.61	0.1015	3.201	0.044	2.3141	0.034	99.896
X-Ray -31	54.903	0.2009	2.59028	1.6799	16.295	18.87	0.1	3.192	0.031	2.2605	0.032	100.15
X-Ray -32	54.816	0.2183	2.75245	1.7315	16.184	18.71	0.0772	3.23	0.086	2.3282	0	100.13
X-Ray -36	55.002	0.2204	2.72293	1.7338	16.161	18.74	0.0929	3.081	0	2.3369	0.034	100.12
X-Ray -37	54.878	0.2306	2.57239	1.5879	16.176	18.83	0.0944	3.251	0.077	2.2447	0.029	99.971
X-Ray -38	54.714	0.4176	2.32641	2.3999	14.55	18.58	0.0699	3.785	0.025	3.0952	0	99.963
X-Ray -39	55.171	0.2218	2.76478	1.7018	16.338	18.75	0.1101	3.236	0	2.3055	0.02	100.62
X-Ray -40	54.882	0.2459	2.92887	1.9063	15.959	18.23	0.09	3.164	0.01	2.5288	0.002	99.943
X-Ray -41	54.6	0.2256	2.87842	1.7925	16.008	18.38	0.1401	3.18	0.039	2.4961	0.059	99.802
X-Ray -42	55.426	0.1926	3.98374	1.1051	16.163	15.74	0.0957	4.349	0.022	3.071	0.008	100.16
X-Ray -43	54.836	0.2116	2.776	1.7302	15.974	18.62	0.1015	3.194	0.001	2.3978	0	99.839
X-Ray -44	54.886	0.245	2.80836	1.8289	16.001	18.37	0.0957	3.053	0.041	2.3779	0.026	99.738
X-Ray -45	54.623	0.4213	2.83434	2.3501	14.761	17.67	0.1127	3.646	0.021	3.2147	0	99.649
X-Ray -46	54.57	0.2258	2.60798	1.734	16.178	18.86	0.103	3.1	0.043	2.2975	0	99.719
X-Ray -47	54.733	0.2743	2.70847	1.7301	16.096	18.85	0.0501	3.099	0.05	2.3103	0.019	99.919
X-Ray -48	54.829	0.4642	4.12397	2.2956	14.165	16.7	0.0856	3.486	0.055	3.8635	0.005	100.07
X-Ray -49	54.894	0.2909	3.17403	2.4722	15.289	18.27	0.0386	2.483	0.036	2.8551	0	99.797
X-Ray -50	54.918	0.35	3.53163	4.2835	14.259	15.6	0.0643	2.775	0.016	4.1886	0	99.991
X-Ray -51	55.491	0.2189	4.10153	1.108	16.209	15.69	0.1616	4.145	0	3.0883	0	100.21
X-Ray -52	55.185	0.2449	3.90327	1.0148	16.105	15.77	0.14	4.363	0.03	3.0553	0.013	99.827
X-Ray -53	54.923	0.2268	2.73182	1.7157	15.984	18.46	0.1088	3.09	0.037	2.346	0.021	99.642
X-Ray -54	55.019	0.2171	2.86083	1.8342	16.102	18.28	0.0987	3.227	0.047	2.4649	0	100.15
X-Ray -55	54.88	0.2171	2.74608	1.6774	16.272	18.6	0.1001	3.133	0.043	2.3224	0.033	100.02
X-Ray -56	54.824	0.2255	2.71929	1.658	16.037	18.83	0.0743	2.964	0.021	2.3038	0.045	99.703
X-Ray -57	54.793	0.2449	2.73839	1.6145	16.213	18.74	0.146	3.275	0.009	2.3204	0.021	100.12
X-Ray -58	55.208	0.2149	3.87385	1.0935	15.973	15.74	0.11	4.484	0.018	3.1174	0.021	99.855
X-Ray -59	55.117	0.1897	2.13281	1.362	16.418	20.18	0.0488	2.597	0.04	1.8648	0	99.946
X-Ray -60	55.45	0.2055	3.89275	1.0838	16.316	15.77	0.1544	4.328	0.03	3.0024	0.01	100.25
X-Ray -61	55.265	0.2112	3.86697	1.0857	16.068	15.65	0.1628	4.356	0	3.0784	0.027	99.769
X-Ray -62	55.011	0.1762	2.74517	1.6779	16.293	18.75	0.0959	3.066	0.043	2.2943	0	100.15
X-Ray -63	54.696	0.4428	4.219	3.3414	13.871	16.11	0.1598	3.565	0.042	4.0395	0	100.48
X-Ray -64	54.819	0.2654	2.68572	1.6689	16.337	18.85	0.1145	3.231	0.085	2.2869	0.013	100.36

X-Ray Pyroxene

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
X-Ray -65	55.154	0.504	4.24842	2.3024	14.011	16.46	0.0815	3.518	0.083	3.8255	0.02	100.21
X-Ray -66	55.043	0.4771	3.74677	2.498	14.074	16.8	0.1	3.645	0.025	3.716	0.011	100.14
X-Ray -67	55.088	0.4801	4.89961	2.0552	13.938	16	0.1371	3.561	0.016	4.1026	0.001	100.28
X-Ray -68	54.66	0.2714	2.58017	1.6044	16.173	18.77	0.0845	3.105	0.003	2.3007	0	99.55
X-Ray -69	55.376	0.1823	3.96433	1.1182	16.149	15.74	0.1602	4.46	0	3.0886	0	100.24
X-Ray -70	54.594	0.2712	2.57926	1.7275	16.061	18.86	0.0946	3.19	0.036	2.3048	0	99.719
X-Ray -71	55.066	0.1947	2.77277	1.7266	16.274	18.59	0.1088	3.148	0.068	2.3469	0.024	100.32
X-Ray -72	54.811	0.3894	2.39	3.3051	15.295	17.77	0.0844	2.611	0.061	3.2709	0	99.989
X-Ray -73	54.885	0.2068	2.6656	1.7099	16.195	18.59	0.0773	3.193	0.046	2.3475	0	99.914
X-Ray -74	55.016	0.2802	2.99307	1.9012	15.871	17.76	0.0988	3.264	0.054	2.7076	0.039	99.981
X-Ray -75	54.939	0.1013	1.95083	1.8272	16.558	20.13	0.0847	2.139	0.076	1.8105	0.023	99.641
X-Ray -76	54.868	0.2282	2.74992	1.7992	16.165	18.72	0.0916	2.952	0.059	2.325	0.034	99.989
X-Ray -77	54.895	0.4685	4.2093	2.2567	14.12	16.72	0.1001	3.537	0.068	3.759	0	100.14
X-Ray -79	54.844	0.2068	2.7757	1.8152	16.194	18.72	0.1433	3.108	0.051	2.3855	0.044	100.29
X-Ray -80	54.722	0.4868	4.79234	2.075	13.891	16.11	0.1102	3.677	0.015	4.1322	0.007	100.02
X-Ray -81	54.838	0.2556	2.58614	1.7121	16.043	18.92	0.0832	2.999	0.063	2.2745	0	99.77
X-Ray -82	54.994	0.2629	2.7574	1.6381	16.147	18.67	0.1234	2.929	0.047	2.3157	0.015	99.904

X-Ray Olivine

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
X-Ray -1	40.793	0.0286	0	0.0319	48.174	0	0.1693	11.05	0.228	0.0104	0.002	100.49
X-Ray -2	40.54	0.0341	0.0145	0	47.06	0.019	0.1365	12.7	0.171	0.0093	0	100.68
X-Ray -3	40.594	0.0328	0	0.009	47.988	0.006	0.1128	11.14	0.219	0	0	100.1
X-Ray -4	41.455	0	0	0.021	50.564	0	0.1063	7.348	0.381	0	0	99.874
X-Ray -5	41.431	0.026	0	0	50.421	0	0.1245	8.113	0.441	0.0177	0.007	100.58
X-Ray -6	40.721	0.0155	0	0.041	48.265	0.015	0.1735	10.9	0.239	0.0191	0	100.39
X-Ray -7	41.059	0.0142	0	0.0017	50.479	0	0.15	8.025	0.345	0	0.031	100.1
X-Ray -8	40.728	0.0056	0.0022	0.0418	47.045	0.036	0.1098	12.22	0.375	0.0519	0	100.62
X-Ray -9	40.482	0.0131	0.0455	0	46.705	0.023	0.166	12.82	0.123	0.0077	0.038	100.42
X-Ray -10	40.47	0.021	0.0642	0.0167	47.095	0.024	0.1266	12.55	0.185	0.019	0.003	100.58
X-Ray -11	40.563	0.007	0.0267	0.0372	46.88	0.013	0.1887	12.74	0.137	0	0.014	100.61
X-Ray -12	41.559	0.0213	0.0117	0.0016	51.06	0.012	0.0935	7.544	0.387	0	0	100.69

X-Ray-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
X-Ray-1 -1	dk purple	41.328	0.282	19.2956	5.8	19.828	5.418	0.3758	7.756	0.03	0.0805	0	100.19
X-Ray-1 -2	dk purple	41.102	0.0281	18.8961	6.5083	19.527	5.903	0.3714	7.646	0	0.0063	0	99.988
X-Ray-1 -3	dk purple	41.278	0.1673	19.7792	5.1565	19.713	5.169	0.3858	8.148	0	0.0304	0	99.827
X-Ray-1 -4	dk purple	41.488	0.0159	18.8848	6.4639	19.499	5.883	0.3794	7.499	0.022	0.0142	0	100.15
X-Ray-1 -5	dk purple	41.274	0.2814	18.8556	5.9065	19.603	6.119	0.3726	7.54	0	0.015	0	99.967
X-Ray-1 -6	dk purple	41.372	0.0197	20.5989	4.5522	19.615	4.921	0.5191	8.178	0	0.0281	0.027	99.831
X-Ray-1 -7	dk purple	41.267	0.0472	18.9199	6.5953	19.475	5.999	0.354	7.638	0.015	0.0106	0	100.32
X-Ray-1 -8	dk purple	41.162	0.4088	18.449	5.9898	19.324	5.815	0.3725	7.622	0	0.0547	0.006	99.203
X-Ray-1 -9	dk purple	41.373	0.0164	18.9647	6.234	19.423	5.877	0.3639	7.714	0.035	0.0038	0	100.01
X-Ray-1 -10	dk purple	41.177	0.0084	18.8618	5.8842	19.371	6.046	0.4091	7.594	0.015	0.0044	0	99.371
X-Ray-1 -11	dk purple	40.943	0.252	17.7704	7.3049	18.569	5.979	0.4529	8.29	0	0.0417	0	99.602
X-Ray-1 -12	dk purple	41.488	0.1464	19.8597	5.1246	19.639	5.2	0.3934	8.383	0.048	0.0328	1E-04	100.32
X-Ray-1 -13	dk purple	41.361	0.1399	19.7584	5.1933	19.615	5.235	0.5116	8.155	0.035	0.0249	0	100.03
X-Ray-1 -14	dk purple	41.202	0.1825	19.9803	4.9573	19.855	5.132	0.4359	8.313	0.062	0.0359	0	100.16
X-Ray-1 -15	dk purple	41.021	0.1928	18.737	6.3291	19.215	5.751	0.4281	8.174	0.059	0.0363	0	99.943
X-Ray-1 -16	dk purple	41.517	0.0992	19.3084	5.7432	19.857	5.93	0.3683	7.894	0.022	0.0048	4E-04	100.74
X-Ray-1 -17	dk purple	40.979	0.1764	18.2862	6.9393	19.392	5.795	0.5026	7.594	0.015	0.052	0	99.73
X-Ray-1 -18	dk purple	41.422	0.4026	18.4631	6.3077	19.525	5.52	0.3988	7.959	0	0.0443	0.007	100.05
X-Ray-1 -19	dk purple	40.98	0.2076	17.9505	7.3	19.23	6.304	0.369	7.762	0.028	0.0288	0.011	100.17
X-Ray-1 -20	dk purple	40.85	0.0773	17.2505	8.2575	18.485	6.814	0.4206	7.611	0.066	0.0161	0	99.847
X-Ray-1 -21	dk purple	40.972	0.3267	17.5721	7.2965	19.198	6.273	0.3327	7.576	0.018	0.0393	0.02	99.623
X-Ray-1 -22	dk purple	41.506	0.2377	20.3615	4.2182	20.083	4.999	0.4151	8.049	0.032	0.0361	0	99.937
X-Ray-1 -23	dk purple	41.548	0.3024	18.8584	5.8523	19.486	5.953	0.3795	7.466	0.032	0.0227	0	99.901
X-Ray-1 -24	dk purple	41.522	0.0267	19.0781	6.225	19.552	5.855	0.3513	7.754	0.037	0.0019	0	100.4
X-Ray-1 -25	dk purple	41.727	0	21.484	3.2961	19.226	5.416	0.5138	8.595	0.012	0.0155	0.009	100.3
X-Ray-1 -26	purple	42.21	0.0019	21.8236	3.0397	19.684	5.462	0.537	8.032	0	0	0.002	100.79
X-Ray-1 -27	purple	41.611	0	21.347	3.5264	19.306	5.595	0.4759	8.447	0	0.0109	0	100.32
X-Ray-1 -28	purple	41.95	0.0192	21.6469	3.3748	19.317	5.496	0.501	8.659	0.043	0.0043	0	101.01
X-Ray-1 -29	purple	41.887	0.03	21.1655	3.8349	20.399	4.36	0.5308	7.913	0.043	0.0205	0	100.18
X-Ray-1 -30	purple	41.909	0.0132	21.5356	3.4	19.236	5.55	0.4921	8.521	0.016	0.018	0	100.69
X-Ray-1 -31	purple	41.464	0	21.3686	3.3677	19.388	5.54	0.4971	8.272	0.035	0.0151	0	99.947
X-Ray-1 -32	purple	41.578	0.0085	21.8083	3.1178	19.308	5.315	0.4702	8.596	0.06	0.0231	0.02	100.3
X-Ray-1 -33	purple	41.357	0.0468	18.6384	6.4279	19.408	6.021	0.34	7.63	0.009	0.0031	0	99.88
X-Ray-1 -34	purple	41.864	0.0052	21.2314	3.977	20.412	4.592	0.5548	7.825	0	0.0285	0.006	100.49
X-Ray-1 -35	purple	41.866	0.0132	21.5602	3.2479	19.606	5.718	0.5523	7.626	0.024	0.0098	0.006	100.23
X-Ray-1 -36	purple	41.623	0.0221	21.7447	3.3208	19.624	5.765	0.4722	7.663	0.035	0.0053	0	100.28
X-Ray-1 -37	purple	41.801	0.0447	23.0939	1.2195	19.046	4.914	0.497	10.24	0	0.0117	0.001	100.87
X-Ray-1 -38	purple	41.459	0.0202	20.4839	4.6556	20.321	4.951	0.5011	7.561	0	0.0263	0	99.979
X-Ray-1 -39	purple	41.663	0.0426	18.8892	6.3194	19.525	5.969	0.3766	7.525	0.015	0.0083	0	100.33
X-Ray-1 -40	purple	41.66	0.1089	21.1659	3.8737	20.452	4.612	0.5225	7.668	0.021	0.0367	0	100.12
X-Ray-1 -41	purple	41.535	0.0409	21.6363	3.0786	18.7	5.943	0.577	8.983	0.013	0.0139	0.031	100.55
X-Ray-1 -42	purple	41.611	0.0254	21.6424	3.0255	18.903	5.828	0.6016	8.253	0	0	0	99.89
X-Ray-1 -43	purple	40.793	0.0182	19.5373	5.7396	17.847	7.064	0.5292	8.694	0	0.0107	0	100.23
X-Ray-1 -44	purple	41.748	0.0131	21.0656	3.8258	19.981	4.57	0.5165	8.426	0	0.0309	7E-04	100.18
X-Ray-1 -45	purple	41.708	0.0329	22.0469	2.3694	19.73	5.226	0.5033	8.421	0	0.0297	0.015	100.08
X-Ray-1 -46	purple	41.484	0.1629	19.8707	4.8809	19.845	5.052	0.4261	8.165	0	0.0278	0.014	99.927
X-Ray-1 -47	purple	41.469	0.1628	19.7961	5.0656	19.668	5.216	0.4454	8.382	0	0.0368	0.025	100.27
X-Ray-1 -48	purple	41.714	0.2552	20.5919	4.137	20.134	4.994	0.4222	8.093	0.018	0.0398	0.042	100.44
X-Ray-1 -49	purple	41.851	0.0207	21.6049	3.5037	19.479	5.482	0.4789	8.319	0	0.016	0.016	100.77
X-Ray-1 -50	purple	41.687	0.0066	21.3934	3.3657	19.348	5.603	0.4817	8.477	0	0.0076	0	100.37
X-Ray-1 -51	purple	41.696	0	21.5295	3.5597	19.463	5.526	0.4774	8.275	0.009	0.0115	0	100.55
X-Ray-1 -52	purple	41.628	0.0178	21.0695	3.9799	20.025	4.591	0.5123	8.393	0	0.0194	0.015	100.25
X-Ray-1 -53	purple	41.681	0.1071	22.2463	2.1019	19.815	5.367	0.3826	7.749	0	0.0165	0.004	99.47
X-Ray-1 -54	purple	41.467	0	21.3202	3.3855	19.169	5.537	0.5084	8.433	0	0.013	0	99.834
X-Ray-1 -55	purple	41.596	0.0089	21.5743	3.3798	19.535	5.343	0.4266	8.638	0.007	0.006	0.013	100.53
X-Ray-1 -56	purple	42.551	0	22.9418	1.7286	20.843	4.167	0.5237	8.08	0	0.0037	0.012	100.85
X-Ray-1 -57	purple	41.455	0.0608	18.9445	6.4903	19.591	5.968	0.3078	7.539	0	0.0058	0.005	100.37
X-Ray-1 -58	purple	41.707	0.0258	21.1061	3.8266	19.894	4.676	0.5139	8.348	0.015	0.0202	0	100.13
X-Ray-1 -59	purple	41.664	0	21.6584	3.2938	19.317	5.683	0.565	8.139	0.021	0.0171	0	100.36

X-Ray-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
X-Ray-1 -60	purple	41.471	0.0216	21.3193	3.3999	19.261	5.481	0.5639	8.38	0.047	0.025	0	99.97
X-Ray-1 -61	purple	41.587	0	21.4176	3.4777	19.421	5.633	0.4702	8.566	0	0.0179	0.012	100.6
X-Ray-1 -62	purple	41.421	0	21.2152	3.4083	19.109	5.54	0.4872	8.352	0	0.0089	0	99.541
X-Ray-1 -63	purple	41.796	0.0178	20.8468	3.9694	20.083	4.616	0.5517	8.392	0	0.0223	0	100.29
X-Ray-1 -64	purple	41.517	0	21.5091	3.3921	19.219	5.451	0.4563	8.446	0	0.0215	0	100.01
X-Ray-1 -65	purple	41.549	0.0286	20.5045	4.5912	20.22	4.968	0.5238	7.637	0.006	0.0206	0	100.05
X-Ray-1 -66	purple	41.717	0.0324	21.4594	3.1179	20.125	4.466	0.5524	8.258	0.021	0.0119	0	99.76
X-Ray-1 -67	purple	41.806	0.0188	21.5067	3.4658	19.319	5.579	0.5069	8.533	0.006	0.0107	0.043	100.79
X-Ray-1 -68	purple	41.721	0.0127	21.3074	3.3241	19.398	5.431	0.483	8.567	0	0.0087	0.036	100.29
X-Ray-1 -69	purple	41.864	0.0108	21.1456	3.796	20.087	4.81	0.5099	8.069	0.03	0.0238	0.011	100.36
X-Ray-1 -70	purple	42.195	0	23.2304	1.2639	21.766	3.188	0.4778	7.502	0	0.006	0	99.629
X-Ray-1 -71	purple	41.842	0.0066	21.5559	3.5384	19.65	5.847	0.5808	7.46	0	0.0172	0	100.5
X-Ray-1 -72	purple	41.862	0.0408	20.9624	4.1634	20.517	4.517	0.4593	7.494	0.002	0.0199	0	100.04
X-Ray-1 -73	purple	41.493	0.0014	21.0616	3.705	19.791	5.071	0.5856	8.548	0	0.0194	0	100.28
X-Ray-1 -74	purple	40.611	0.0479	21.25	2.7678	15.719	5.649	0.8183	13.54	0	0.0056	0	100.41
X-Ray-1 -75	red	40.925	0.1899	18.5806	6.3424	19	5.75	0.4448	8.526	0.047	0.0381	0	99.843
X-Ray-1 -76	red	41.386	0.6196	21.0718	2.3302	19.239	4.951	0.442	9.608	0.04	0.0938	0	99.782
X-Ray-1 -77	red	41.367	0.0398	18.7405	6.3882	19.468	5.933	0.3864	7.595	0.053	0.0104	0.019	100
X-Ray-1 -78	red	41.921	0.0437	20.382	4.4037	20.111	5.36	0.3986	7.693	0.01	0.0012	0	100.32
X-Ray-1 -79	red	41.235	0.0416	19.0188	6.2165	19.751	5.841	0.3908	7.597	0	0.0098	0	100.1
X-Ray-1 -80	red	41.723	0.0544	20.7345	4.2382	20.087	4.761	0.5572	8.183	0.034	0.0248	0.029	100.43
X-Ray-1 -81	red	41.398	0.3339	18.6317	6.1851	19.975	5.359	0.3486	7.531	0.024	0.026	0.017	99.829
X-Ray-1 -82	red	41.324	0.6096	21.1282	2.302	19.276	4.966	0.4363	9.791	0.004	0.0957	8E-04	99.934
X-Ray-1 -83	red	41.668	0.1455	19.6055	5.3224	19.564	5.24	0.4469	8.37	0.009	0.0404	0	100.41
X-Ray-1 -84	red	41.941	0.1716	21.3685	3.2074	20.522	4.627	0.4158	8.017	0.021	0.0411	0	100.33
X-Ray-1 -85	red	41.178	0.134	18.6244	6.3483	19.122	5.752	0.4437	8.24	0	0.048	0.01	99.899
X-Ray-1 -86	red	41.341	0.1625	19.8168	4.8486	19.905	5.075	0.4178	8.198	0.04	0.0245	0	99.829
X-Ray-1 -87	red	42.127	0.3469	22.0568	1.3469	20.469	3.716	0.3214	9.805	0.028	0.0928	0	100.31
X-Ray-1 -88	red	41.6	0.3567	20.1502	4.2046	20.237	5.181	0.3676	7.861	0	0.0503	0	100.01
X-Ray-1 -89	red	41.388	0.6026	21.17	2.3102	19.328	4.871	0.425	9.726	0.027	0.1039	0	99.951
X-Ray-1 -90	red	41.536	0.611	20.9974	2.313	19.34	4.942	0.4581	9.599	0.004	0.0847	0	99.885
X-Ray-1 -91	red	42.228	0.5365	22.0323	1.7229	20.656	4.462	0.2879	8.314	0	0.0638	0.017	100.32
X-Ray-1 -92	red	41.316	0.3307	18.6951	6.2207	20.056	5.436	0.3052	7.477	0.027	0.0337	0.006	99.903
X-Ray-1 -93	red	41.8	0.1908	21.026	3.4636	20.335	4.721	0.3989	8.054	0.01	0.0377	0.014	100.05
X-Ray-1 -94	red	41.934	0.3943	21.814	1.4731	20.167	4.019	0.3847	9.893	0	0.0853	0.025	100.19
X-Ray-1 -95	red	42.11	0.3462	22.009	1.3663	20.396	3.639	0.3737	9.417	0	0.087	0.014	99.757
X-Ray-1 -96	red	41.632	0.3494	21.9655	1.4948	20.037	3.999	0.4057	10.18	0.029	0.0938	0	100.19
X-Ray-1 -97	red	41.634	0.2043	20.6346	3.9485	20.059	4.939	0.3889	8.126	0.041	0.0314	0	100.01
X-Ray-1 -98	red	41.891	0.023	22.3751	2.3427	18.984	5.22	0.6493	9.457	0	0.0182	0.038	101
X-Ray-1 -99	red	41.669	0.6444	21.2847	2.1945	19.337	4.809	0.4549	9.7	0	0.092	0.011	100.2
X-Ray-1 -100	red	41.302	0.4768	21.135	2.4998	19.494	4.608	0.4558	9.913	0.044	0.1142	0.023	100.07
X-Ray-1 -101	red	41.681	0.3214	21.0665	3.2881	20.322	4.7	0.3537	8.215	0.057	0.047	0	100.05
X-Ray-1 -102	red	41.749	0.0497	19.5784	5.2633	19.858	5.666	0.4025	7.709	0	0	0	100.28
X-Ray-1 -103	red	41.198	0.4901	21.0222	2.5879	19.318	4.928	0.4532	9.86	0	0.0809	0	99.938
X-Ray-1 -104	red	41.567	0.229	21.177	3.1856	19.036	4.695	0.5932	9.883	0.021	0.0646	0.017	100.47
X-Ray-1 -105	red	41.574	0.1495	19.9666	4.7546	20.02	5.112	0.4306	7.969	0.002	0.0428	0.001	100.02
X-Ray-1 -106	red	41.793	0.0671	21.3479	3.6614	20.264	4.573	0.6017	8.247	0	0.0298	0.017	100.6
X-Ray-1 -107	red	41.958	0.1973	21.2233	3.6325	20.155	4.795	0.4875	8.2	0.01	0.0372	0.02	100.72
X-Ray-1 -108	red	41.735	0.1972	20.7965	4.0056	20.273	4.824	0.3916	8.053	0	0.0397	0	100.32
X-Ray-1 -109	red	41.957	0.0287	20.6833	4.1007	20.136	5.303	0.3088	7.804	0	0.0058	0.01	100.34
X-Ray-1 -110	red	41.755	0.6495	21.3841	2.4501	19.447	4.807	0.4899	9.809	0	0.0924	0	100.88
X-Ray-1 -111	red	40.62	0	21.5203	1.7741	15.005	6.226	0.7361	14.32	0.04	0.0121	0.002	100.25
X-Ray-1 -112	red	41.468	0.1527	19.5335	5.2808	19.451	5.274	0.4362	8.117	0.032	0.0377	0	99.782
X-Ray-1 -113	red	41.995	0.0084	20.8945	4.0679	19.78	4.655	0.5449	8.271	0.034	0.0322	0.037	100.32
X-Ray-1 -114	red	38.677	0.107	21.5224	0.0225	6.6103	8.834	0.5351	24.35	0.048	0.0332	0	100.74
X-Ray-1 -115	red	41.787	0.2774	21.0763	3.4527	20.355	4.747	0.3849	8.044	0.038	0.0589	0	100.22
X-Ray-1 -116	red	41.29	0.8161	20.2038	3.1225	18.608	5.827	0.4501	10.08	0	0.1071	0	100.5
X-Ray-1 -117	red	41.645	0.078	21.1634	3.3475	20.007	4.84	0.3989	8.422	0.01	0.0251	0.002	99.939
X-Ray-1 -118	red	41.707	0.0493	21.0192	4.1342	20.209	4.733	0.5268	8.218	0	0.0274	0.046	100.67

X-Ray-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
X-Ray-1 -119	red	41.506	0.6169	21.0529	2.3863	19.174	5.036	0.4618	9.88	0.003	0.1008	0.023	100.24
X-Ray-1 -120	red	41.29	0.7941	20.1713	3.133	18.592	5.69	0.5137	9.904	0	0.1203	0.014	100.22
X-Ray-1 -121	red	41.507	0.5898	21.1287	2.1922	19.445	4.868	0.4298	9.8	0.031	0.083	0	100.07
X-Ray-1 -122	red	41.608	0.2036	20.8913	3.3917	20.01	4.859	0.3835	8.466	0.028	0.0384	0	99.88
X-Ray-1 -123	red	41.195	0.7522	20.0741	3.1331	18.478	5.764	0.4514	10.07	0	0.1164	0	100.03
X-Ray-1 -124	red	41.629	0.5997	21.0515	2.2985	19.432	4.817	0.4522	9.902	0.002	0.0924	0	100.28
X-Ray-1 -125	orange	42.14	0.3389	22.0165	1.3245	20.577	3.772	0.3105	9.683	0	0.1096	0	100.27
X-Ray-1 -126	orange	39.813	0.0553	22.4749	0.1248	12.279	4.392	0.4156	21.01	0.025	0.0218	0.013	100.62
X-Ray-1 -127	orange	41.587	0.3886	21.7045	1.9614	19.999	3.868	0.4818	10.22	0.018	0.0938	0	100.32
X-Ray-1 -128	orange	41.789	0.3897	21.9704	1.2635	20.106	4.041	0.3978	9.831	0.025	0.0831	0	99.896
X-Ray-1 -129	orange	39.222	0.0736	22.0803	0.0679	8.1741	9.6	0.5433	21.19	0	0.053	0	101
X-Ray-1 -132	orange	42.179	0.3489	22.0949	1.2792	20.603	3.714	0.3246	9.637	0.019	0.1122	0	100.31
X-Ray-1 -133	orange	39.313	0.0233	22.3685	0.0482	8.2858	11.4	0.4141	18.85	0	0.0198	0	100.72
X-Ray-1 -134	orange	41.561	0.6665	20.8181	2.848	18.871	5.397	0.5097	9.829	0.012	0.0869	0	100.6
X-Ray-1 -135	orange	41.522	0.5743	21.153	2.3438	19.414	4.991	0.4299	9.69	0.009	0.0977	0	100.22
X-Ray-1 -137	orange	41.266	0.7774	20.1177	3.172	18.566	5.746	0.4685	9.981	0.035	0.1174	0	100.25
X-Ray-1 -138	orange	41.85	0.4844	21.9013	1.7121	20.788	4.415	0.3221	8.487	0	0.0565	0.013	100.03
X-Ray-1 -139	orange	41.9	0.5344	21.982	1.7424	20.644	4.475	0.3305	8.547	0.019	0.058	0	100.23
X-Ray-1 -140	orange	41.971	0.3542	20.8933	2.9544	20.234	4.532	0.355	9.356	0.041	0.0773	0.031	100.8
X-Ray-1 -141	orange	42.249	0.4644	21.9835	1.7699	20.797	4.481	0.2912	8.297	0.009	0.0537	0.013	100.41
X-Ray-1 -142	orange	41.793	0.3746	22.159	1.2669	20.109	4.14	0.409	9.859	0.08	0.1072	0	100.3
X-Ray-1 -143	orange	39.29	0.0907	21.778	0.0093	8.8747	6.073	0.3929	24.73	0	0	0.037	101.27
X-Ray-1 -144	orange	42.07	0.3824	22.0929	1.3466	20.654	3.766	0.288	9.556	0	0.0976	0	100.25
X-Ray-1 -145	orange	41.867	0.3758	21.9377	1.345	20.657	3.766	0.367	9.424	0	0.0971	0	99.837
X-Ray-1 -146	orange	42.197	0.3583	21.9321	1.3247	20.641	3.74	0.3811	9.525	0.033	0.1145	0	100.25
X-Ray-1 -147	orange	41.723	0.3869	22.0557	1.2256	20.096	4.131	0.3965	9.921	0	0.114	0.004	100.05
X-Ray-1 -148	orange	42.08	0.3639	22.0571	1.3184	20.513	3.605	0.3656	9.547	0	0.0932	0	99.943
X-Ray-1 -149	orange	41.732	0.5993	21.1211	2.127	19.51	4.81	0.3946	9.75	0	0.0941	0	100.14
X-Ray-1 -150	orange	41.726	0.3784	22.1163	1.2748	19.918	4.182	0.4429	9.926	0.035	0.0954	0	100.09
X-Ray-1 -151	orange	41.594	0.4531	21.483	1.9135	19.816	3.994	0.4678	10.1	0	0.0868	0	99.906
X-Ray-1 -152	orange	42.021	0.3984	20.8279	3.0283	20.173	4.54	0.358	9.173	0.035	0.0719	0.027	100.65
X-Ray-1 -153	orange	41.623	0.6612	21.155	2.0973	19.416	4.818	0.4706	9.843	0.031	0.0886	0.017	100.22
X-Ray-1 -154	orange	41.432	0.6187	21.1978	2.232	19.535	4.789	0.3861	9.93	0.037	0.1002	0.03	100.29
X-Ray-1 -156	orange	41.6	0.6251	20.9918	2.2847	19.372	4.941	0.4567	9.648	0	0.1037	0	100.02
X-Ray-1 -157	orange	42.071	0.3652	22.0176	1.3825	20.512	3.749	0.3683	9.683	0.012	0.0958	0.015	100.27
X-Ray-1 -158	orange	41.829	0.3912	21.973	1.2544	20.081	4.041	0.4064	9.727	0	0.1123	0	99.816
X-Ray-1 -159	orange	41.82	0.4148	21.8565	1.3379	19.882	4.082	0.4174	10.09	0.004	0.0885	0	99.993
X-Ray-1 -160	orange	42.095	0.3574	22.3934	1.3215	20.644	3.807	0.3416	9.614	0.015	0.0839	0	100.67
X-Ray-1 -161	orange	41.556	0.5952	21.2009	2.2444	19.321	5.058	0.4623	9.636	0	0.0914	0	100.16
X-Ray-1 -162	orange	41.555	0.6676	21.1409	2.5041	19.245	5.155	0.4367	9.749	0.049	0.0966	0.005	100.6
X-Ray-1 -163	orange	41.616	0.2156	21.9317	1.7457	19.954	4.517	0.4684	9.49	0	0.0292	0	99.968
X-Ray-1 -164	orange	41.97	0.5856	21.7442	2.05	19.464	5.02	0.4159	9.746	0	0.102	0	101.1
X-Ray-1 -165	orange	42.184	0.3959	22.2607	1.2041	20.154	4.1	0.3992	10.01	0.007	0.106	0	100.82
X-Ray-1 -166	orange	42.274	0.3352	22.082	1.341	20.702	3.753	0.4149	9.667	0	0.0874	0	100.66
X-Ray-1 -167	orange	41.569	0.6121	21.2418	2.1894	19.414	5.003	0.4454	9.651	0	0.0874	0	100.21
X-Ray-1 -168	orange	41.417	0.6297	21.0645	2.3387	19.302	4.982	0.4214	9.699	0.024	0.0858	0.021	99.985
X-Ray-1 -169	orange	41.807	0.6336	21.2198	2.121	19.541	4.827	0.4411	9.819	0.027	0.0939	0.005	100.54
X-Ray-1 -170	orange	41.828	0.3521	21.9993	1.3314	20.808	3.711	0.3514	9.658	0.01	0.098	0	100.15
X-Ray-1 -171	orange	42.168	0.3261	22.0195	1.3728	20.58	3.713	0.3993	9.763	0.021	0.1034	0	100.47
X-Ray-1 -172	orange	41.404	0.4101	21.7735	1.904	20.044	3.741	0.4536	10.44	0.006	0.0914	0	100.26
X-Ray-1 -173	orange	41.563	0.6235	21.1254	2.3214	19.352	4.879	0.4524	9.7	0.001	0.0946	0	100.11
X-Ray-1 -175	orange	41.821	0.6105	20.9685	2.3323	19.398	4.998	0.4257	9.791	0	0.1135	0.002	100.46
X-Ray-1 -176	orange	40.561	0.0382	20.7916	2.8657	14.764	6.822	0.8075	13.87	0.028	0.0046	0	100.55
X-Ray-1 -177	orange	41.468	0.6338	21.4384	2.1744	19.29	5.019	0.5073	9.587	0	0.0922	0.023	100.23
X-Ray-1 -178	orange	42.246	0.362	21.5868	2.5168	20.927	4.383	0.3517	8.075	0.021	0.0442	0.016	100.53
X-Ray-1 -179	orange	41.853	0.3458	21.8853	1.6012	20.291	3.965	0.4303	9.676	0	0.0773	0.013	100.14
X-Ray-1 -180	orange	41.353	0.5964	21.2391	2.2258	19.454	5.056	0.3988	9.842	0	0.0934	0	100.26
X-Ray-1 -181	orange	41.229	0.6277	20.8976	2.236	19.235	4.981	0.4199	9.852	0.026	0.0997	0	99.603
X-Ray-1 -182	orange	41.953	0.3694	22.0666	1.3664	20.581	3.668	0.364	9.871	0	0.117	0	100.36

X-Ray-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
X-Ray-1 -183	orange	42.047	0.3626	21.9912	1.356	20.713	3.716	0.3472	9.474	0.041	0.1026	0	100.15
X-Ray-1 -184	orange	41.465	0.4075	21.9267	1.6468	19.927	3.978	0.4539	9.991	0.016	0.0909	0	99.902
X-Ray-1 -185	orange	41.925	0.21	21.8944	2.2857	20.236	4.408	0.4332	8.806	0	0.0517	0	100.25
X-Ray-1 -186	orange	42.206	0.3696	22.1004	1.3632	20.642	3.726	0.3627	9.585	0	0.0972	0.013	100.46
X-Ray-1 -187	orange	41.514	0.567	21.3221	2.2678	19.264	4.925	0.4342	9.593	0.054	0.0852	0	100.03
X-Ray-1 -188	purple	41.333	0.0707	20.78	4.0694	20.091	4.564	0.5247	8.126	0.002	0.0313	0	99.592
X-Ray-1 -189	purple	40.794	0.253	18.2122	6.8937	19.36	5.452	0.4274	8.066	0	0.0479	0.004	99.511
X-Ray-1 -190	purple	41.33	0.0193	20.6167	4.5866	20.297	4.639	0.4883	7.355	0	0.0265	0	99.359
X-Ray-1 -191	purple	41.601	0.009	21.5487	3.3203	19.284	5.497	0.557	8.529	0.028	0.0124	0	100.39
X-Ray-1 -192	purple	41.002	0.166	18.7577	6.2233	19.174	5.687	0.4328	8.284	0.052	0.0274	0	99.805
X-Ray-1 -193	purple	41.564	0.0386	21.1504	4.0266	20.413	4.817	0.5076	7.78	0	0.0354	0.003	100.34
X-Ray-1 -194	purple	40.887	0.3548	17.1824	8.2032	18.778	6.153	0.411	7.649	0.013	0.0643	0	99.695
X-Ray-1 -195	purple	41.421	0.0212	21.989	2.4685	19.397	5.065	0.6164	8.902	0.074	0.0099	0.018	99.982
X-Ray-1 -196	purple	41.26	0.0132	21.7522	2.8565	18.118	5.935	0.7315	9.408	0	0.0201	0	100.09
X-Ray-1 -197	purple	41.284	0.0433	20.8317	4.2698	20.09	4.681	0.4819	8.191	0	0.0193	0.015	99.906
X-Ray-1 -198	purple	41.567	0.009	21.5524	3.3923	19.425	5.475	0.4596	8.305	0	0.0126	0.008	100.21
X-Ray-1 -199	purple	41.439	0	21.491	3.2234	19.097	5.497	0.5629	8.326	0	0.0141	0.012	99.661
X-Ray-1 -200	purple	41.84	0	21.0897	3.8437	20.108	4.666	0.5006	8.103	0.035	0.0291	0	100.22
X-Ray-1 -201	purple	41.721	0.0575	21.2129	3.7566	20.088	4.686	0.5384	8.437	0.007	0.0389	0	100.54
X-Ray-1 -202	purple	41.768	0.0429	20.8431	4.0975	20.442	4.647	0.5334	7.247	0.025	0.036	0	99.682
X-Ray-1 -203	purple	41.761	0.0287	21.0276	3.9829	20.229	4.615	0.5158	8.354	0.008	0.0306	0	100.55
X-Ray-1 -204	purple	41.72	0.0212	21.4644	3.5708	19.316	5.632	0.4456	8.319	0	0.0257	0.002	100.52
X-Ray-1 -205	purple	41.566	0	21.1393	3.6562	19.473	5.644	0.4908	8.206	0.03	0.024	0	100.23
X-Ray-1 -206	purple	41.642	0.0871	20.7121	4.1335	20.25	4.758	0.4466	8.382	0.024	0.0406	0.031	100.51
X-Ray-1 -207	purple	41.733	0.0118	21.5154	3.4676	20.285	4.49	0.5165	8.054	0	0.0233	0	100.1
X-Ray-1 -208	purple	41.294	0.1066	19.1363	6.424	20.069	5.351	0.3952	7.295	0.078	0.0254	0.004	100.18
X-Ray-1 -209	purple	41.545	0.0759	21.076	3.6061	20.132	4.56	0.5504	8.001	0.037	0.0231	0.004	99.611
X-Ray-1 -210	purple	41.582	0.0452	20.6413	4.138	20.108	4.588	0.4566	8.164	0	0.0271	0	99.75
X-Ray-1 -211	purple	41.673	0.0306	20.5122	4.616	20.425	4.868	0.5558	7.425	0.002	0.0334	0.027	100.17
X-Ray-1 -212	purple	42.004	0	21.9162	3.2597	19.57	5.348	0.5292	8.596	0	0.0112	0.011	101.24
X-Ray-1 -213	red	41.302	0.0174	18.9869	6.2824	19.619	5.793	0.3347	7.564	0.007	0.0157	0.007	99.929
X-Ray-1 -214	red	42.015	0.1934	20.856	3.5007	20.217	4.823	0.3538	8.335	0	0.0442	0.018	100.36
X-Ray-1 -215	red	41.672	0.1867	20.9715	3.4617	20.239	4.679	0.5148	8.314	0	0.0582	0.006	100.1
X-Ray-1 -216	red	41.401	0.2361	20.4717	4.1828	19.661	5.085	0.4901	8.94	0	0.0421	0.036	100.55
X-Ray-1 -217	red	41.78	0.2433	21.0176	3.5055	20.28	4.689	0.3551	8.376	0.012	0.0405	0	100.3
X-Ray-1 -218	red	41.558	0.228	20.1274	4.6376	20.299	4.997	0.3988	7.578	0.021	0.0321	0	99.875
X-Ray-1 -219	red	41.657	0.244	19.9522	4.6778	19.848	5.434	0.3902	7.745	0.006	0.0266	0	99.981
X-Ray-1 -220	red	41.878	0.1882	20.6775	4.078	20.589	4.972	0.3467	7.838	0	0.0412	0	100.61
X-Ray-1 -221	red	41.297	0.1541	19.7011	5.1773	19.749	5.226	0.4404	8.339	0	0.024	0	100.11
X-Ray-1 -222	red	41.263	0.1767	19.7255	5.1104	19.578	5.197	0.4703	8.084	0.003	0.0353	0	99.644
X-Ray-1 -223	red	41.248	0.2824	18.9637	5.9317	19.836	5.298	0.4096	7.568	0	0.0591	0	99.597
X-Ray-1 -224	red	40.92	0.3619	17.5944	7.4204	19.279	6.269	0.3835	7.558	0.043	0.0262	0	99.855
X-Ray-1 -225	red	39.872	0.5243	14.778	10.6642	17.714	5.632	0.4859	9.71	0	0.1093	0	99.491
X-Ray-1 -226	red	41.519	0.1254	19.1713	6.1204	19.726	5.352	0.4237	7.656	0	0.0228	0	100.12
X-Ray-1 -227	red	41.773	0.3854	19.7133	4.6825	20.721	4.319	0.3577	7.894	0.024	0.1068	0	99.977
X-Ray-1 -228	red	40.796	0.2095	17.4847	7.8101	19.066	6.065	0.4492	8.114	0	0.0382	0	100.03
X-Ray-1 -229	red	41.816	0.017	21.3641	3.465	19.538	5.446	0.4399	8.449	0.012	0.0106	0	100.56
X-Ray-1 -230	purple	41.448	0.0421	21.4778	3.2547	19.412	5.707	0.5565	7.942	0	0.0126	0	99.853
X-Ray-1 -231	purple	41.275	0.047	18.7421	6.3837	19.344	6.013	0.4165	7.575	0.007	0.0103	0	99.814
X-Ray-1 -232	purple	41.552	0.1429	20.0028	5.1387	19.671	5.197	0.5283	8.18	0.009	0.0432	0	100.46
X-Ray-1 -233	purple	40.741	0.1976	18.1573	7.106	18.768	5.875	0.5524	8.157	0.021	0.0473	0	99.623
X-Ray-1 -234	purple	41.636	0.0712	20.9917	3.7279	20.032	4.655	0.5023	8.396	0	0.0242	0	100.04
X-Ray-1 -235	purple	41.61	0.0179	20.8615	4.0971	19.919	4.682	0.55	8.321	0.009	0.023	0	100.09
X-Ray-1 -236	purple	41.296	0.0522	19.1185	6.4053	19.514	5.941	0.4616	7.588	0	0.0165	0.014	100.41

X-Ray-1 Chromite

Sample	SiO_2	TiO_2	Nb_2O_5	Ta_2O_5	Al_2O_3	Cr_2O_3	V_2O_5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe_2O_3	FeO	Total
X-Ray-1 -1	0.025	3.706	0	0.0469	0.8813	51.284	0.643	7.44	0.042	0.4	34.58	0.179	0.031	99.25177	11.167	24.53	100.37
X-Ray-1 -2	0.034	0.141	0	0	7.5429	55.095	0.193	8.87	0.063	0.44	26.69	0.14	0.148	99.35955	8.2004	19.31	100.18
X-Ray-1 -3	0.081	1.949	0.0013	0	5.3595	56.725	0.275	10.7	0.044	0.28	23.89	0.09	0.019	99.42003	6.193	18.32	100.04
X-Ray-1 -4	0.026	0.213	0	0.0101	10.001	57.805	0.273	11.1	0.058	0.27	20.74	0.026	0.143	100.6841	4.0561	17.09	101.09
X-Ray-1 -5	0.035	2.668	0.0013	0	1.1318	54.49	0.476	7.63	0.062	0.48	31.96	0.147	0.149	99.22746	10.11	22.86	100.24
X-Ray-1 -6	0.002	0.118	0	0	12.769	53.791	0.224	10.7	0	0.39	21.54	0.113	0.181	99.79585	4.418	17.56	100.24
X-Ray-1 -9	0.042	3.277	0	0	1.3796	51.544	0.53	7.16	0.003	0.41	34.72	0.152	0.029	99.24286	11.314	24.54	100.38
X-Ray-1 -12	0.03	0.071	0	0	12.555	54.829	0.216	11.2	0.004	0.27	20.51	0.04	0.285	100.0599	4.1229	16.8	100.47
X-Ray-1 -13	0.043	3.628	0	0.014	4.3332	54.677	0.341	10.1	0	0.16	26.36	0.198	0.055	99.9051	6.1269	20.85	100.52
X-Ray-1 -15	0.024	0.223	0.0446	0.0168	9.2153	52.336	0.406	7.73	0.087	0.61	28.2	0.091	0.254	99.23479	7.4849	21.46	99.985
X-Ray-1 -16	0.017	0.083	0	0	11.558	49.734	0.214	7.96	0	0.49	28.72	0.122	0.204	99.10522	8.3499	21.21	99.942
X-Ray-1 -17	0.028	3.068	0.0263	0.033	1.1034	54.382	0.473	8.08	0.104	0.48	31.57	0.155	0.058	99.56379	9.8783	22.68	100.55
X-Ray-1 -18	0.029	0.06	0.0102	0	11.399	51.893	0.26	7.93	0.051	0.42	26.95	0.073	0.238	99.31072	6.2055	21.36	99.932
X-Ray-1 -19	0.03	0.283	0	0	7.5577	57.194	0.413	9.66	0.032	0.47	23.91	0.13	0.206	99.89376	5.8354	18.66	100.48
X-Ray-1 -20	0.021	0.021	0.0013	0.0595	14.025	52.89	0.313	11.3	0	0.4	20.79	0.035	0.224	100.0604	4.1663	17.04	100.48
X-Ray-1 -21	0.018	2.934	0.0125	0	1.1508	54.323	0.534	7.88	0.007	0.5	31.23	0.093	0.097	98.78469	9.3816	22.79	99.725
X-Ray-1 -24	0.005	3.303	0	0	1.2526	52.213	0.559	7.79	0.004	0.37	33.4	0.148	0.05	99.08783	10.952	23.54	100.19
X-Ray-1 -27	0.13	1.084	0	0	7.3812	56.349	0.245	11.4	0.044	0.34	22.9	0.167	0.175	100.2032	6.7681	16.81	100.88
X-Ray-1 -28	0.009	1.622	0.0212	0.0151	0.5711	60.326	0.621	7.67	0.072	0.67	28.1	0.095	0.23	100.0161	6.8151	21.96	100.7
X-Ray-1 -29	0.01	1.368	0.0403	0.0298	3.3923	61.085	0.275	9.3	0.002	0.32	23.63	0.036	0.139	99.62658	4.4988	19.58	100.08
X-Ray-1 -33	0.122	1.849	0.0485	0	7.6784	53.6	0.284	11.3	0.024	0.5	24.37	0.169	0.085	100.0667	7.4911	17.63	100.82
X-Ray-1 -38	0.007	1.194	0.0113	0.0046	2.303	60.912	0.385	9.29	0.005	0.29	25.18	0.093	0.102	99.77826	6.3312	19.48	100.41
X-Ray-1 -40	0.012	3.744	0	0.0431	0.3634	39.16	0.703	5.18	0.043	0.42	47.87	0.091	0.232	97.85607	22.49	27.63	100.11
X-Ray-1 -41	0.021	0.546	0.041	0.0081	9.5875	57.72	0.22	11.8	0.047	0.43	20.07	0.148	0.051	100.6609	4.4208	16.09	101.1
X-Ray-1 -43	0.004	3.555	0	0.0292	1.0034	42.035	0.567	6.26	0.065	0.9	44.22	0.174	0.156	98.96549	20.812	25.49	101.05
X-Ray-1 -45	0.019	0.046	0.0013	0.0047	11.961	52.746	0.289	8.07	0.037	0.57	26.01	0.06	0.352	100.1674	5.2533	21.28	100.69
X-Ray-1 -46	0.022	0.297	0	0.0182	8.0587	56.774	0.374	9.79	0.018	0.48	23.65	0.128	0.177	99.79194	5.7334	18.49	100.37
X-Ray-1 -47	0	2.573	0	0.0092	1.0549	55.191	0.602	7.52	0.069	0.59	31.8	0.171	0.112	99.68824	9.642	23.12	100.65
X-Ray-1 -49	0.013	0.361	0.0116	0	11.59	54.064	0.276	10.5	0.012	0.29	22.68	0.138	0.176	100.1195	5.0549	18.13	100.63
X-Ray-1 -50	0.011	0.398	0.0478	0.0073	2.5442	56.351	0.387	7.64	0.079	0.4	31.44	0.111	0.084	99.50318	11.417	21.16	100.65
X-Ray-1 -52	0.042	0.201	0.0406	0.0194	5.4348	57.181	0.254	9.22	0.035	0.5	26.6	0	0.145	99.6635	8.5799	18.87	100.52
X-Ray-1 -53	0.024	0.097	0.041	0.0305	10.137	55.781	0.275	10.4	0.098	0.48	23.08	0.079	0.217	100.6985	5.781	17.88	101.28
X-Ray-1 -54	0.023	2.677	0.0088	0	1.6519	57.431	0.567	8.98	0.021	0.55	28.25	0.172	0.178	100.5128	7.7059	21.32	101.28
X-Ray-1 -55	0.035	0.377	0.0076	0	4.1684	56.721	0.388	8.74	0.022	0.39	28.93	0.095	0.244	100.1086	10.098	19.84	101.12
X-Ray-1 -56	0.039	0.019	0	0.0301	5.5248	55.428	0.378	8.58	0.062	0.56	29.05	0.08	0.145	99.89431	10.291	19.79	100.93
X-Ray-1 -57	0.043	4.493	0	0.0172	1.5006	46.56	0.618	6.95	0.055	0.36	38.76	0.226	0.191	99.77	14.066	26.1	101.18
X-Ray-1 -58	0.051	0.049	0.0077	0	12.73	51.98	0.309	9.88	0.029	0.34	23.65	0.079	0.229	99.33588	5.4101	18.78	99.878
X-Ray-1 -59	0.018	2.742	0.0289	0	1.3074	54.926	0.486	8.2	0	0.59	30.77	0.208	0.17	99.44146	9.6858	22.05	100.41
X-Ray-1 -60	0.043	0.13	0.0181	0	12.946	53.235	0.27	11.4	0.033	0.29	22.12	0.1	0.045	100.6396	5.5729	17.1	101.2
X-Ray-1 -61	0.103	0.918	0	0	8.279	54.042	0.346	10.9	0.029	0.22	24.88	0.096	0.05	99.89038	7.7933	17.87	100.67
X-Ray-1 -62	0.003	3.212	0.0075	0.0218	0.68	51.882	0.572	7.48	0.003	0.54	33.95	0.1	0.298	98.74961	11.698	23.42	99.922
X-Ray-1 -63	0.045	0.018	0	0	10.804	55.302	0.266	11	0	0.31	22.34	0.074	0.157	100.305	5.8002	17.12	100.89
X-Ray-1 -64	0.042	1.262	0.0075	0	1.6902	60.12	0.402	8.7	0.081	0.64	26.24	0.088	0.095	99.36765	7.085	19.86	100.08
X-Ray-1 -65	0.019	0.153	0.0204	0.062	8.0814	51.276	0.245	8.1	0.036	0.54	30.59	0.169	0.161	99.44391	11.021	20.67	100.55
X-Ray-1 -66	0.026	0.475	0	0	10.88	54.234	0.292	10.2	0.078	0.48	22.99	0.137	0.141	99.8876	5.118	18.38	100.4
X-Ray-1 -67	0.038	0.753	0	0	13.223	40.148	0.243	8.56	0.037	0.44	34.93	0.193	0.207	98.77042	15.288	21.17	100.3
X-Ray-1 -69	0.019	1.41	0.0125	0.0172	1.2586	57.517	0.387	7.96	0	0.57	30.02	0.105	0.089	99.36398	9.7757	21.23	100.34
X-Ray-1 -71	0.024	1.009	0.0089	0	5.8856	53.215	0.378	8.91	0.042	0.63	29.09	0.09	0.1	99.37958	10.078	20.02	100.39
X-Ray-1 -72	0.019	0.315	0.0243	0.0492	8.8052	56.41	0.246	10.3	0.004	0.51	22.75	0.086	0.207	99.72946	5.6627	17.65	100.3
X-Ray-1 -73	0.059	0.764	0	0.0213	4.3196	56.971	0.42	8.98	0.028	0.32	27.36	0.066	0	99.30252	8.2285	19.95	100.13
X-Ray-1 -74	0.009	0.147	0.0234	0	16.062	50.147	0.184	11.1	0.04	0.48	21.42	0.082	0.476	100.2239	4.7903	17.11	100.7
X-Ray-1 -75	0.066	0.005	0	0	14.702	51.235	0.306	10.5	0	0.38	22.32	0.067	0.248	99.85635	4.5577	18.22	100.31
X-Ray-1 -76	0.029	0.322	0.0272	0.0378	15.686	48.365	0.363	9.94	0	0.51	24.08	0.086	0.251	99.69844	5.1536	19.44	100.21
X-Ray-1 -77	0.138	1.942	0	0	7.192	54.426	0.391	11	0	0.07	25.1	0.171	0.098	100.5027	6.8776	18.91	101.19
X-Ray-1 -78	0.01	0.2	0.0546	0.0161	5.5715	56.026	0.369	9.38	0.064	0.35	27.24	0.165	0.142	99.59225	9.4422	18.75	100.54
X-Ray-1 -81	0.031	0.089	0	0	15.889	49.361	0.244	10.2	0.044	0.43	23.17	0.03	0.257	99.704	4.8822	18.77	100.19
X-Ray-1 -82	0.068	2.698	0.0013	0.038	4.0067	56.933	0.265	10.3	0.016	0.5	25	0.106	0.127	100.0286	6.308	19.32	100.66
X-Ray-1 -84	0.067	1.774	0	0	2.3471	54.629	0.35	7.87	0.015	0.59	31.4	0.123	0.142	99.30506	10.735	21.74	100.38
X-Ray-1 -86	0.012	0.17	0	0	10.879	48.442	0.26	8.18	0.038	0.75	30.18	0.061	0.357	99.33246	10.614	20.63	100.4
X-Ray-1 -88	6E-04	0.064	0	0.0322	22.051	47.602	0.313	12.8	0.036	0.19	16.7	0.066	0.362	100.2553	0.8463	15.94	100.34
X-Ray-1 -89	0.059	2.709	0	0	3.9594	57.078	0.142	10.4	0.052	0.25	24.51	0.202	0.053	99.38143	6.1992	18.93	100
X-Ray-1 -55*	0.029	0.781	0.019	0.0094	6.8828	58.478	0.162	11	0	0.53	21.53	0.141	0.048	99.60341	5.4692	16.61	100.15

* This chromite grain was mixed in with the X-Ray-1 ilmenite analyses

X-Ray-1 Ilmenite

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
X-Ray-1 -1	core	0.039	53.306	0.0421	0.0193	0.3758	2.6576	0	11.672	0.012	0.338	30.806	0.118	0.077	99.462	4.561	26.7	99.919	53.865	41.980	4.155	100
X-Ray-1 -2	core	0.021	49.609	0.2063	0	0.0251	2.8338	0.15	8.9586	0.013	0.374	36.639	0.193	0.018	99.041	9.006	28.54	99.943	58.773	32.881	8.346	100
X-Ray-1 -3	core	0.015	52.864	0.026	0.0322	0.4874	2.8906	0.178	11.979	0	0.287	30.509	0.162	0.008	99.437	4.917	26.09	99.93	52.513	43.009	4.478	100
X-Ray-1 -5	core	0.02	51.62	0.1075	0.0843	0.0333	2.983	0.036	10.569	0.022	0.334	33.293	0.238	0.021	99.36	6.744	27.22	100.04	55.375	38.385	6.240	100
X-Ray-1 -6	core	0.009	51.54	0.0457	0	0.0507	2.5861	0	10.592	0.1	0.279	34.164	0.106	0.005	99.478	7.944	27.02	100.27	54.615	38.159	7.226	100
X-Ray-1 -7	core	0.016	51.046	0.1247	0.0109	0.0325	2.6643	0.05	9.8035	0	0.332	34.935	0.113	0	99.127	7.455	28.23	99.874	57.537	35.618	6.845	100
X-Ray-1 -8	core	0.015	51.235	0.1346	0.0418	0.1004	2.7276	0.202	10.234	0	0.392	33.888	0.097	0.05	99.118	6.753	27.81	99.794	56.618	37.163	6.219	100
X-Ray-1 -9	core	0.013	49.925	0.1246	0.0058	0	2.751	0	9.0845	0	0.401	36.533	0.164	0.034	99.037	9.187	28.27	99.958	58.170	33.319	8.511	100
X-Ray-1 -10	core	0.026	51.416	0.0964	0	0.0842	2.7945	0.07	10.395	0	0.287	34.053	0.118	0.069	99.409	7.29	27.49	100.14	55.770	37.577	6.653	100
X-Ray-1 -11	core	0	47.756	0.2085	0.0212	0	3.1783	0.156	7.9368	0.04	0.327	39.338	0.11	0.11	99.182	11.82	28.7	100.37	59.572	29.370	11.058	100
X-Ray-1 -12	core	0.027	50.107	0.1629	0	0.0553	2.6884	0.158	9.17	0.017	0.405	36.5	0.104	0	99.394	8.731	28.64	100.27	58.561	33.408	8.031	100
X-Ray-1 -13	core	0.011	51.756	0.1234	0.0206	0.0501	2.7672	0	10.001	0	0.315	34.704	0.106	0.011	99.865	6.949	28.45	100.56	57.574	36.082	6.343	100
X-Ray-1 -14	core	0.02	50.106	0.1308	0.0264	0.077	2.6961	0.133	9.2634	0.002	0.518	35.798	0.004	0.024	98.797	8.23	28.39	99.622	58.393	33.970	7.637	100
X-Ray-1 -15	core	0.01	53.659	0.0791	0.0045	0.3161	2.2802	0	11.518	0	0.211	31.415	0.181	0.074	99.747	4.49	27.37	100.2	54.832	41.118	4.050	100
X-Ray-1 -16	core	0.008	53.012	0.073	0	0.3063	2.4258	0.159	11.787	0.008	0.269	31.32	0.113	0	99.481	5.229	26.62	100	53.261	42.032	4.707	100
X-Ray-1 -17	core	0.019	50.841	0.1062	0.0013	0.0683	2.6429	0.053	9.9432	7E-04	0.28	35.366	0.075	0.021	99.416	8.356	27.85	100.25	56.455	35.923	7.622	100
X-Ray-1 -18	core	0.015	51.869	0.0779	0.0676	0.1618	3.0186	0	10.84	0.029	0.479	33.301	0.13	0	99.989	7.199	26.82	100.71	54.256	39.138	6.606	100
X-Ray-1 -19	core	0.022	50.116	0.137	0.0257	0.0553	2.6993	0.023	9.1908	0	0.496	36.201	0.063	0.029	99.057	8.749	28.33	99.933	58.214	33.676	8.110	100
X-Ray-1 -20	core	0.013	49.881	0.1532	0	0.0663	2.8016	0.029	9.5839	0	0.389	36.26	0.114	0.018	99.308	9.754	27.48	100.29	56.145	34.890	8.965	100
X-Ray-1 -21	core	0.033	51.79	0.0581	0.0045	0.1385	2.807	0.038	10.433	0	0.345	34.193	0.109	0	99.95	7.225	27.69	100.67	55.900	37.534	6.565	100
X-Ray-1 -22	core	0	52.07	0.0852	0.0039	0.0944	2.8518	0.023	10.503	0.046	0.37	33.375	0.111	0	99.534	6.309	27.7	100.17	56.233	38.001	5.765	100
X-Ray-1 -23	core	0.015	49.823	0.163	0	0.0841	2.7848	0.001	9.2747	0.011	0.292	36.514	0.115	0.013	99.09	9.417	28.04	100.03	57.455	33.864	8.681	100
X-Ray-1 -24	core	0.026	53.218	0.0681	0.0458	0.426	2.8868	0	12.119	0	0.266	30.364	0.139	0.074	99.632	4.932	25.93	100.13	52.079	43.429	4.492	100
X-Ray-1 -25	core	0	47.047	0.2075	0.0561	0	2.8344	0.002	7.5498	0	0.367	40.619	0.067	0.034	98.783	13.3	28.65	100.12	59.526	27.988	12.486	100
X-Ray-1 -26	core	0.019	51.389	0.0803	0.0676	0.0364	2.8461	0.151	10.344	0	0.374	33.667	0.059	0	99.034	6.593	27.74	99.694	56.383	37.532	6.084	100
X-Ray-1 -27	core	0	52.195	0.1237	0.0084	0.1667	2.3842	0	10.938	0.023	0.261	32.943	0.134	0	99.178	6.425	27.16	99.821	54.816	39.344	5.841	100
X-Ray-1 -28	core	3E-04	51.483	0.1273	0.074	0.1421	2.7742	0	10.391	0	0.328	33.758	0.147	0.05	99.274	7.013	27.45	99.977	55.808	37.716	6.476	100
X-Ray-1 -29	core	0.025	52.89	0.0643	0.0232	0.2256	2.4191	0.151	11.662	0.019	0.265	31.694	0.033	0	99.471	5.432	26.81	100.02	53.556	41.544	4.900	100
X-Ray-1 -30	core	0.01	50.408	0.163	0.02	0.0237	2.7304	0	9.3278	0.027	0.417	36.253	0.087	0.153	99.617	8.912	28.23	100.51	57.759	34.021	8.220	100
X-Ray-1 -31	core	0	51.563	0.1211	0	0	2.9448	0.24	10.512	0.008	0.303	33.328	0.186	0.174	99.379	6.481	27.5	100.03	55.950	38.117	5.933	100
X-Ray-1 -32	core	0.045	53.132	0.125	0.0129	0.3258	2.3896	0	11.626	0.027	0.249	31.524	0.235	0.032	99.723	5.341	26.72	100.26	53.599	41.572	4.830	100
X-Ray-1 -33	core	0	50.245	0.1296	0.0688	0.0129	2.7495	0.124	9.4094	0.037	0.427	35.799	0.168	0	99.17	8.496	28.15	100.02	57.694	34.415	7.891	100
X-Ray-1 -34	core	0.011	53.637	0.0483	0.0355	0.4215	2.9501	0	12.061	0	0.191	30.758	0.108	0.061	100.28	4.758	26.48	100.76	52.803	42.901	4.296	100
X-Ray-1 -35	core	0.012	47.774	0.2197	0.027	0	3.1874	0.013	8.0888	0	0.397	39.253	0.076	0	99.048	12.11	28.36	100.26	58.787	29.898	11.316	100
X-Ray-1 -36	core	0.012	51.097	0.1199	0.0406	0.0356	2.7811	0	10.304	0	0.403	34.321	0.085	0.061	99.259	7.897	27.22	100.05	55.356	37.383	7.260	100
X-Ray-1 -37	core	0.017	52.016	0.0556	0	0.0897	2.9837	0	10.675	0	0.325	33.254	0.174	0	99.589	6.576	27.34	100.25	55.431	38.571	5.999	100
X-Ray-1 -38	core	0.028	53.106	0.0755	0.0142	0.2874	2.6786	0	12.011	0	0.306	31.309	0.115	0	99.929	5.838	26.06	100.51	52.010	42.736	5.254	100
X-Ray-1 -39	core	0	47.016	0.2323	0.0419	0	2.8216	0.359	8.3151	0.015	0.34	39.355	0.175	0	98.672	12.87	27.78	99.961	57.368	30.634	11.998	100
X-Ray-1 -40	core	0.006	52.43	0.0904	0	0.4349	3.1052	0.177	12.061	0	0.21	30.9	0.172	0.037	99.624	5.857	25.63	100.21	51.510	43.193	5.296	100
X-Ray-1 -41	core	0.01	50.949	0.1619	0.0187	0.1032	2.8266	0	9.8967	0.034	0.328	34.791	0.148	0.053	99.319	7.753	27.81	100.1	56.818	36.041	7.141	100
X-Ray-1 -42	core	0.007	51.483	0.0755	0.0722	0.0973	2.9041	0.027	10.649	0	0.317	33.401	0.129	0.026	99.189	7.079	27.03	99.898	54.880	38.595	6.525	100
X-Ray-1 -43	core	0.022	51.33	0.1458	0	0.0663	2.6216	0.138	10.2	0.06	0.308	34.394	0.116	0.119	99.52	7.351	27.78	100.26	56.389	36.897	6.714	100
X-Ray-1 -44	core	0.025	44.935	0.3357	0.0568	0	1.6448	0.335	6.3822	0.033	0.302	44.697	0.107	0.076	98.929	16.92	29.47	100.62	60.771	23.478	15.750	100
X-Ray-1 -45	core	0.018	50.268	0.2037	0	0.0384	2.6751	0.165	9.3369	0	0.523	35.726	0.01	0.016	98.98	8.014	28.51	99.783	58.482	34.124	7.394	100
X-Ray-1 -46	core	0.014	50.439	0.1187	0	0.0891	2.7599	0.102	9.9962	0	0.433	35.063	0.057	0.04	99.112	8.605	27.32	99.974	55.750	36.350	7.900	100
X-Ray-1 -47	core	0.017	53.186	0.057	0.0194	0.4185	2.7972	0.118	12.17	0.011	0.359	30.404	0.124	0	99.68	4.979	25.92	100.18	51.985	43.508	4.507	100
X-Ray-1 -48	core	0.011	52.053	0.0965	0	0.0881	2.7366	0	11.025	0	0.249	33.198	0.144	0	99.6	7.013	26.89	100.3	54.111	39.539	6.350	100
X-Ray-1 -49	core	0.002	51.475	0.1272	0.0116	0.0678	2.8987	0	10.284	0.026	0.445	33.735	0.038	0.005	99.114	6.834	27.59	99.799	56.302	37.413	6.285	100
X-Ray-1 -50	core	0.041	50.933	0.1286	0.009	0.0111	2.6605	0	10.049	0	0.363	34.863	0.123	0	99.181	8.07	27.6	99.989	56.162	36.443	7.395	100
X-Ray-1 -51	core	0.019	49.947	0.1704	0.0335	0.0449	2.7935	0.084	9.3122	0.026	0.492	36.239	0.078	0	99.238	9.073	28.08	100.15	57.557	34.046	8.397	100
X-Ray-1 -52	core	0.008	53.148	0	0	0.3313	2.7772	0	11.928	0	0.195	31.2	0.19	0.061	99.837	5.651	26.12	100.4	52.322	42.585	5.094	100
X-Ray-1 -53	core	0.014	48.399	0.1814	0	0	3.0027	0.179	8.276	0	0.401	38.478	0.197	0.013	99.142	10.91	28.66	100.23	59.323	30.522	10.155	100
X-Ray-1 -54	core	0.014	47.954	0.1888	0.0116	0.0153	3.1489	0.393	8.3307	0.012	0.371	38.836	0.095	0	99.372	11.33	28.64	100.51	58.945	30.558	10.498	100
X-Ray-1 -56	core	0.019	51.394	0.1199	0.0367	0.0326	2.9384	0	10.511	0.057	0.364	33.524	0.065	0	99.061	7.075	27.16	99.77	55.307	38.180	6.512	100
X-Ray-1 -57	core	0.035	53.1	0.0532	0	0.3083	2.5046	0.097	11.773	0	0.305	30.721	0.12	0.013	99.03	4.592	26.59	99.49	53.570	42.267	4.163	100
X-Ray-1 -58	core	0.019	53.159	0.1126	0.0831	0.2953	2.3565	0.031	11.637	0.008	0.204	31.099	0.125	0.011	99.14	4.592	26.97	99.6	54.105	41.687	4.208	100
X-Ray-1 -59	core	0.008	49.96	0.1704	0	0.0826	4.1229	0.112	9.7178	0.016	0.453	35.106	0.171	0	99.92	8.635	27.34	100.79	56.319	35.677	8.004	100
X-Ray-1 -60	core	0.017	52.244	0.1593	0	0.1041	2.8958	0	10.252	0	0.321	34.058	0.122	0	100.17	6.22	28.46	100.8	57.465	36.885	5.650	100
X-Ray-1 -61	core	0.021	51.323	0.1249	0.0077	0.1269	2.7778	0.204	10.571	0	0.221	33.667	0.134	0	99.178	6.911	27.45	99.871	55.562	38.139	6.300	100
X-Ray-1 -62	core	0.021	51.182	0.1396	0	0.0566	2.7744	0	9.7197	0	0.363	35.385	0.05	0	99.692	7.69	28.47	100.46	57.803	35.171	7.025	100
X-Ray-1 -63	core	0.016	51.94	0.1533	0	0.0525	2.7606	0.009	10.297	0	0.368	34.001	0.113	0.103	99.813	6.687	27.98	100.48	56.716	37.188	6.097	100
X-Ray-1 -64	core	0.009	51.275	0.0915	0.0393	0.1098	2.9753	0.03	10.347	0	0.451	33.916	0.16	0	99.404	7.416	27.24	100.15	55.541	37.625	6.834	100
X-Ray-1 -65	core	0.01	50.328	0.2385	0.0264	0.058	3.0847	0	9.68	0.015	0.391	35.621	0.163	0.026	99.642	8.804	27.7	100.52	56.608	35.275	8.118	100
X-Ray-1 -66	core	0	53.19	0.0694	0.0226	0.4266	2.8099	0.129	12.098	0	0.488	30.713	0.156	0.045	100.15	5.37	25.88	100.69	51.891	43.248	4.861	100
X-Ray-1 -67	core	0.002	51.403	0.0556	0.0045	0.1278	3.0106	0	10.404	0.019	0.293	33.737	0.068	0	99.123	7.083	27.36	99.833	55.737	37.768	6.495	100
X-Ray-1 -68	core	0.007	50.551	0.1125	0	0.0935	2.602	0.127	9.8961	0	0.346	34.948	0.122	0.042	98.847	8.11	27.65	99.66	56.505	36.038	7.456	100
X-Ray-1 -69	core	0.192	50.762	0.0977	0	0.1273	2.7042	0	9.8215	0.006	0.335	34.931	0.078	0	99.054	7.637	28.06	99.819	57.266	35.721	7.013	100
X-Ray-1 -70	core	0.035	52.503	0.0927	0.0097	0.1425	2.9111	0	10.58	0.052	0.414	33.687	0.12	0.032	100.58	6.455	27.88	101.23	56.158	37.985	5.858	100
X-Ray-1 -71	core	0.025	50.986	0.1075	0	0.0671	2.5627	0.023	9.9567	0.033	0.41	35.126	0.139	0.037	99.473	8.292	27.67	100.3	56.301	36.107	7.592	100
X-Ray-1 -72	core	0	49.427	0.1704	0	0.0244	2.8611	0.245	8.986	0	0.49	36.635	0.134	0.018	98.991	9.191	28.37	99.912	58.469	33.008	8.523	100
X-Ray-1 -73	core	0.003	51.224	0.0792	0	0.0803	3.2943	0	10.526	0.021	0.337	33.562	0.111	0.14	99.378	7.52	26.8	100.13	54.756	38.331	6.913	100
X-Ray-1 -74	core	0.01	51.921	0.0668	0.0457	0.1041	2.8879	0.189	10.535	0.018	0.28	33.313	0.127	0.034	99.531	6.047	27.87	100.14	56.417	38.040	5.543	100
X-Ray-1 -75	core	0.023	51.314	0.1089	0.0161	0.1386	3.2059	0	10.75	0.038	0.208	33.383	0.183	0.045	99.414	7.462	26.67	100.16	54.210	38.953	6.837	100
X-Ray-1 -76	rim	0.024	50.615	0.1584	0.0219	0.0926	2.6816	0.023	10.569	0	0.395	34.838	0.128	0.011	99.558	9.379	26.4	100.5	53.361	38.090	8.548	100
X-Ray-1 -77	core	0	50.553	0.1421	0.0193	0.0792	2.659	0	9.3083	0.022	0.322	36.138	0.132	0	99.374	8.424	28.56	100.22	58.341	33.900	7.758	100
X-Ray-1 -78	rim	0.007	51.972	0.1214	0.0335	0.1249	2.7863	0.019	11.485	0.003	0.298	32.408	0.094	0	99.351	7.049	26.07	100.06	52.410	41.187	6.404	100
X-Ray-1 -79	core	0.032	51.523	0.1026	0.0052	0.0262	2.7487	0.017	10.473	0.026	0.374	34.186	0.113	0	99.626	7.621	27.33	100.39	55.293	37.764	6.942	100
X-Ray-1 -80	rim	0	50.877	0.1024	0	0	2.8496	0.108	9.237	0	0.332	36.409	0.106	0	100.02	8.086	29.13	100.83	59.176	33.435	7.390	100
X-Ray-1 -81	core	0	49.872	0.1791	0.029	0.0498	2.7819	0.085	9.2782	0.01	0.414	36.113	0.089	0	98.901	8.858	28.14	99.789	57.806	33.983	8.210	100
X-Ray-1 -82	rim	0.013	52.348	0.1125	0.0064	0.0358	2.795	0	10.407	0	0.34	33.807	0.163	0.084	100.11	6.347	28.1	100.75	56.758	37.468	5.774	100

X-Ray-1 Ilmenite

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
X-Ray-1 -83	core	0.018	51.96	0.0766	0.0316	0.1337	2.6853	0.175	10.356	0.016	0.405	34.158	0.157	0	100.17	6.744	28.09	100.85	56.626	37.231	6.142	100
X-Ray-1 -84	rim	0	48.525	0.1556	0	0.0334	3.3575	0	8.3821	0.004	0.326	38.164	0.052	0.018	99.017	10.78	28.47	100.1	58.995	30.956	10.049	100
X-Ray-1 -85	core	0.008	48.362	0.2495	0.0419	0.0059	3.3333	0.141	8.3483	0	0.404	37.67	0.052	0	98.617	9.987	28.68	99.618	59.651	30.967	9.381	100
X-Ray-1 -7*	core	0.01	48.156	0.1549	0.0465	0	3.2829	0.277	8.3105	0.01	0.509	38.625	0.036	0.024	99.442	11.19	28.56	100.56	58.959	30.607	10.434	100
X-Ray-1 -8*	core	0.024	53.083	0.0348	0.0492	0.4194	2.9094	0.02	12.1	0.038	0.299	30.225	0.187	0	99.387	4.951	25.77	99.883	51.952	43.520	4.528	100
X-Ray-1 -10*	core	0.003	45.222	0.364	0.0142	0	1.7657	0.263	6.4975	0.017	0.372	43.371	0.083	0.05	98.022	15.54	29.39	99.58	61.263	24.146	14.592	100
X-Ray-1 -11*	core	0.003	50.166	0.1512	0.0717	0.0879	2.9417	0.074	9.4499	0.012	0.255	35.742	0.003	0.069	99.026	8.308	28.27	99.858	57.802	34.493	7.704	100
X-Ray-1 -14*	core	0.023	49.122	0.0905	0.0452	0	2.9526	0.232	8.5463	0	0.272	37.383	0.094	0.085	98.846	9.288	29.03	99.776	59.886	31.453	8.661	100
X-Ray-1 -22*	core	0.007	53.686	0.0968	0	0.2359	2.4033	0	11.285	0	0.374	32.03	0.124	0.005	100.25	4.726	27.78	100.72	55.540	40.209	4.251	100
X-Ray-1 -25*	core	0.043	51.448	0.1056	0	0.1066	2.7051	0.071	10.911	0	0.377	33.355	0.131	0.09	99.343	7.605	26.51	100.1	53.693	39.378	6.929	100
X-Ray-1 -26*	core	0.032	47.618	0.1759	0.0349	0	3.2941	0.271	8.1629	0.026	0.466	38.416	0.11	0	98.606	11.2	28.34	99.728	59.104	30.359	10.537	100
X-Ray-1 -30*	core	0.014	49.281	0.1314	0.0537	0.0027	2.6869	0.205	8.8804	0.081	0.37	37.891	0	0.071	99.668	10.47	28.47	100.72	58.042	32.305	9.654	100
X-Ray-1 -31*	core	0.021	50.759	0.1389	0.0123	0.0265	2.5352	0.131	9.5827	0.045	0.325	35.892	0.157	0	99.626	8.302	28.42	100.46	57.717	34.688	7.596	100
X-Ray-1 -34*	core	0.01	53.351	0.031	0	0.2952	2.6123	0.023	11.868	0	0.201	30.912	0.026	0.011	99.34	4.714	26.67	99.813	53.405	42.348	4.247	100
X-Ray-1 -35*	core	0.008	49.766	0.1363	0.033	0.0695	2.9047	0.052	9.2892	0.041	0.161	36.842	0.057	0.032	99.391	9.65	28.16	100.36	57.373	33.752	8.875	100
X-Ray-1 -36*	core	1E-04	50.201	0.135	0.0516	0.0099	3.3077	0.064	9.4207	0	0.379	35.573	0.069	0.042	99.254	8.251	28.15	100.08	57.812	34.520	7.668	100
X-Ray-1 -37*	core	5E-04	50.174	0.1747	0	0.038	2.9207	0.007	9.338	0	0.42	35.917	0.092	0.011	99.093	8.625	28.16	99.957	57.842	34.186	7.972	100
X-Ray-1 -39*	core	0.006	49.38	0.1562	0.0368	0.0714	2.724	0	8.7286	0.007	0.311	37.126	0.047	0.056	98.649	9.439	28.63	99.595	59.082	32.123	8.795	100
X-Ray-1 -42*	core	0.015	52.053	0.0868	0	0.065	2.7854	0.127	10.64	0	0.312	33.324	0.161	0	99.568	6.26	27.69	100.2	55.978	38.328	5.693	100
X-Ray-1 -44*	core	0.016	51.83	0.0955	0.0794	0.0634	2.9603	0.016	10.457	0	0.324	33.478	0.167	0.005	99.493	6.443	27.68	100.14	56.172	37.883	5.946	100
X-Ray-1 -48*	core	0.023	49.914	0.1276	0.0323	0	3.179	0.124	9.1005	0.028	0.484	36.57	0.123	0.04	99.746	9.111	28.37	100.66	58.242	33.316	8.442	100
X-Ray-1 -68*	core	0.023	48.459	0.1525	0.0103	0	2.9484	0.073	8.2936	0.024	0.329	38.14	0.036	0	98.489	10.48	28.71	99.539	59.553	30.661	9.786	100
X-Ray-1 -80*	core	0.005	51.561	0.1091	0	0.0438	2.7875	0	9.9873	0	0.445	34.708	0.096	0.003	99.745	7.291	28.15	100.48	57.182	36.155	6.664	100
X-Ray-1 -83*	core	0.002	51.541	0.046	0.0362	0.1771	2.8405	0	10.525	0	0.297	33.348	0.15	0.058	99.021	6.863	27.17	99.709	55.402	38.273	6.325	100
X-Ray-1 -85*	core	0.016	50.287	0.1166	0.0575	0.0385	2.4447	0.332	9.3591	0	0.4	35.548	0.124	0.09	98.814	7.669	28.65	99.582	58.679	34.206	7.115	100
X-Ray-1 -87*	core	0.01	48.921	0.1996	0.0323	0	2.9787	0.049	8.656	0	0.367	37.681	0.007	0.069	98.969	10.25	28.45	99.997	58.647	31.816	9.537	100

* These ilmenite grains were mixed in with the X-Ray-1 chromite analyses

X-Ray-1 Pyroxene

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
X-Ray-1 -1	55.265	0.3405	4.7737	1.0227	15.766	14.17	0.1334	4.61	0.012	3.7753	0	99.865
X-Ray-1 -2	55.114	0.2459	5.0805	1.0784	14.583	15.32	0.1376	4.587	0.062	3.9688	0.009	100.19
X-Ray-1 -3	55.219	0.2866	4.0229	0.9224	15.616	15.9	0.1235	4.613	0	3.3015	0.016	100.02
X-Ray-1 -4	55.517	0.2665	4.4369	1.172	15.423	15.05	0.1518	4.523	0.052	3.5439	0.007	100.14
X-Ray-1 -5	55.377	0.2587	4.7046	1.2783	15.478	14.77	0.1262	4.401	0.091	3.6985	0.014	100.2
X-Ray-1 -6	55.232	0.2527	5.2617	0.8634	14.528	14.7	0.1489	5.145	0.001	4.0434	0.01	100.19
X-Ray-1 -7	55.526	0.2776	5.7534	1.0656	14.667	13.89	0.1021	4.768	0.056	4.3679	0.003	100.48
X-Ray-1 -8	55.555	0.2647	5.505	1.1023	14.574	14.2	0.1134	4.734	0.046	4.3202	0	100.42
X-Ray-1 -9	55.137	0.2422	4.6532	1.029	15.029	15.61	0.1093	4.359	0.007	3.6636	0.031	99.868
X-Ray-1 -10	55.275	0.3042	4.2355	0.926	15.392	15.89	0.0951	4.491	0.044	3.4829	0.003	100.14
X-Ray-1 -11	55.08	0.2007	2.405	2.0686	16.368	19.69	0.1095	2.145	0.01	2.213	0.025	100.31
X-Ray-1 -12	55.206	0.2248	3.6638	0.9249	16.248	16.41	0.1221	4.332	0.027	2.976	0	100.14
X-Ray-1 -13	55.285	0.2931	4.6489	0.9549	15.023	15.65	0.0907	4.35	0	3.5714	0.001	99.864
X-Ray-1 -14	55.097	0.2997	4.0404	1.4079	15.168	16.03	0.1276	4.174	0.043	3.4598	8E-04	99.847
X-Ray-1 -15	55.462	0.3011	5.3921	0.8768	14.417	15.03	0.0879	4.637	0.04	4.1487	0.013	100.41
X-Ray-1 -16	55.253	0.1755	0.9793	2.6919	15.506	20.96	0.0809	2.228	0.06	2.2165	0	100.16
X-Ray-1 -17	54.956	0.2051	1.3293	1.1397	16.163	21.02	0.0896	3.562	0	1.7899	0	100.26
X-Ray-1 -18	55.571	0.2676	5.0687	0.918	15.057	15.41	0.1305	4.621	0.022	3.7711	0	100.84
X-Ray-1 -19	55.366	0.2492	4.576	1.1824	15.656	14.92	0.0979	4.619	0.068	3.6486	0	100.38
X-Ray-1 -20	55.315	0.3056	4.7605	1.0188	15.763	14.35	0.1603	4.593	0.024	3.7249	0	100.02
X-Ray-1 -21	55.422	0.2174	4.8184	0.9808	15.797	14.28	0.1503	4.821	0.009	3.6916	0	100.19
X-Ray-1 -22	55.095	0.1081	3.6018	3.3965	14.102	17.94	0.0554	2.126	0.059	3.5617	0	100.05
X-Ray-1 -23	54.924	0.2705	5.3227	0.886	14.463	14.84	0.0965	4.966	0	4.0023	0	99.769
X-Ray-1 -24	55.284	0.2529	4.4529	1.2315	15.595	14.86	0.1461	4.608	0.041	3.6137	0.005	100.09
X-Ray-1 -25	55.126	0.2798	4.4439	1.2399	15.61	14.96	0.1716	4.431	0.015	3.6697	0.004	99.949
X-Ray-1 -26	55.512	0.2655	4.5643	1.2163	15.613	14.95	0.1178	4.444	0.018	3.6229	0.006	100.33
X-Ray-1 -27	55.45	0.2519	4.632	0.9752	15.033	15.82	0.0724	4.422	0.086	3.598	0	100.34
X-Ray-1 -28	55.251	0.2964	5.9915	0.8151	14.135	14.35	0.1006	4.894	0.04	4.3639	0	100.24
X-Ray-1 -29	54.782	0.2955	1.8709	1.2487	15.802	20.25	0.108	3.561	0.062	2.0374	0	100.02
X-Ray-1 -30	55.253	0.3708	4.2619	1.2379	15.032	16.01	0.0554	4.572	0.049	3.5929	0.015	100.45
X-Ray-1 -31	55.001	0.2908	5.5241	0.8471	14.357	14.42	0.1064	4.973	0	4.2848	0	99.804
X-Ray-1 -32	55.43	0.2696	5.6194	1.0986	14.606	13.98	0.1007	4.595	0.018	4.2768	0.006	99.995
X-Ray-1 -33	55.531	0.2612	4.5656	1.1547	15.667	14.91	0.1262	4.617	0.062	3.5768	0.029	100.5
X-Ray-1 -34	54.998	0.2823	5.3545	0.8876	14.32	14.86	0.0964	4.639	0.025	4.0922	0	99.552
X-Ray-1 -35	55.553	0.2789	4.0425	0.9677	15.616	16.16	0.1632	4.51	0.081	3.2412	0.012	100.62
X-Ray-1 -36	55.384	0.2106	4.6627	1.1328	15.52	15.27	0.1292	4.461	0.024	3.6017	0.007	100.41
X-Ray-1 -37	55.701	0.2591	4.8893	1.0913	15.721	14.28	0.1432	4.831	0.043	3.7661	0	100.72
X-Ray-1 -38	55.31	0.2344	4.7394	1.2762	15.428	14.87	0.1277	4.409	0.047	3.7919	0.012	100.24
X-Ray-1 -39	55.118	0.3495	4.7015	1.0066	15.88	14.12	0.1049	4.703	0.068	3.8029	0.038	99.897
X-Ray-1 -40	55.507	0.2663	6.1086	1.0065	14.191	14.04	0.0809	4.657	0.043	4.4754	0	100.38
X-Ray-1 -41	55.008	0.2748	5.5107	0.8881	14.308	14.54	0.1191	4.938	0.027	4.2407	0.021	99.875
X-Ray-1 -42	55.161	0.2611	4.4623	1.238	15.669	14.95	0.139	4.502	0.047	3.5762	0.013	100.02
X-Ray-1 -43	55.55	0.2362	4.4918	1.1701	15.568	14.95	0.1645	4.54	0.05	3.5725	0.019	100.32
X-Ray-1 -44	54.978	0.2207	4.0558	0.9281	15.79	16.07	0.1249	4.611	0.024	3.321	0	100.12
X-Ray-1 -45	54.914	0.3617	4.6641	0.7947	14.757	15.81	0.0979	4.667	0.006	3.7	0.055	99.829
X-Ray-1 -46	55.309	0.2676	5.7821	1.0823	14.361	14.02	0.1417	4.762	0	4.5007	0	100.23
X-Ray-1 -47	55.191	0.3845	4.5614	1.1856	14.426	15.67	0.0767	4.514	0.028	3.9582	0	99.992
X-Ray-1 -48	55.086	0.3492	4.7439	0.823	14.842	15.91	0.095	4.749	0.004	3.7191	0.021	100.34
X-Ray-1 -49	55.28	0.2736	5.4536	0.9069	14.421	14.89	0.1191	4.749	0	4.1289	0	100.22
X-Ray-1 -50	55.001	0.2593	4.527	1.217	15.689	14.92	0.1306	4.478	0.069	3.6308	0	99.92
X-Ray-1 -51	55.502	0.3591	4.7132	1.3459	14.72	15.38	0.1149	4.359	0.063	3.8252	0	100.39
X-Ray-1 -52	54.974	0.2874	5.5036	0.86	14.415	14.53	0.0964	4.981	0.034	4.2453	0	99.93
X-Ray-1 -53	55.088	0.3049	5.4529	0.8889	14.553	14.98	0.0738	4.658	0.007	4.0865	0	100.09
X-Ray-1 -54	55.32	0.2947	5.4139	0.8811	14.44	14.9	0.1262	4.829	0.057	4.1398	0	100.4
X-Ray-1 -55	55.353	0.2729	5.3483	1.2484	15.024	14.03	0.1206	4.651	0.01	4.068	0	100.12
X-Ray-1 -56	55.335	0.2991	5.4596	1.161	14.823	13.56	0.1234	4.659	0.047	4.3487	0.02	99.836
X-Ray-1 -57	55.067	0.3085	5.389	0.9675	14.327	14.91	0.139	4.735	0	4.0994	0	99.945
X-Ray-1 -58	54.997	0.2923	5.4125	0.8926	14.256	14.77	0.0709	4.757	0.015	4.1369	0.014	99.615
X-Ray-1 -59	55.567	0.2553	5.6189	1.1162	14.645	14.11	0.1163	4.715	0.015	4.3375	0	100.49

X-Ray-1 Pyroxene

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
X-Ray-1 -60	54.979	0.2357	4.0643	0.9503	15.406	16.04	0.1406	4.419	0.031	3.3203	0	99.59
X-Ray-1 -61	54.848	0.2807	1.8826	1.1811	15.976	20.32	0.0966	3.654	0.049	1.9932	0.018	100.3
X-Ray-1 -62	55.252	0.3065	4.5612	1.4455	15.046	15.6	0.0795	4.29	0.057	3.8682	0	100.51
X-Ray-1 -63	55.273	0.2962	5.8667	0.871	14.165	14.43	0.0965	4.76	0.016	4.3432	0	100.12
X-Ray-1 -64	54.926	0.345	4.2885	1.2537	15.005	16.02	0.1264	4.392	0.049	3.5546	0	99.959
X-Ray-1 -65	55.318	0.2544	5.2927	0.8275	14.598	14.69	0.129	5.127	0.094	4.094	3E-04	100.42
X-Ray-1 -66	55.15	0.2589	4.9676	1.1763	14.756	15.26	0.1334	4.529	0.071	3.8144	0	100.12
X-Ray-1 -67	55.498	0.2277	4.0931	0.9131	15.531	16.01	0.1362	4.46	0	3.2878	0.013	100.17
X-Ray-1 -68	55.36	0.2794	4.4642	1.1754	15.439	15.23	0.1106	4.556	0.071	3.5973	0	100.28

X-Ray-1 Olivine

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
X-Ray-1 -1	40.27	0.0108	0.0285	0.0624	47.121	0.045	0.1653	12.28	0.203	0.0158	0	100.2
X-Ray-1 -2	40.53	0.0108	0.047	0	47.821	0.071	0.1443	11.76	0.218	0.0036	0	100.61
X-Ray-1 -4	40.927	0.0256	0	0.018	50.282	0	0.1222	8.138	0.296	0.0096	0.006	99.824
X-Ray-1 -5	40.303	0.0174	0	0	47.795	0.044	0.1033	11.75	0.221	0	0.007	100.24
X-Ray-1 -6	40.822	0.0184	0.0785	0.0264	48.764	0.027	0.1275	10.45	0.415	0.0271	0.001	100.76
X-Ray-1 -7	41.261	0.0104	0.0159	0.0632	49.984	0.009	0.1135	9.159	0.434	0.025	0	101.07
X-Ray-1 -8	40.63	0.0324	0	0.0137	47.345	0.096	0.1385	12.07	0.249	0.017	0.004	100.6
X-Ray-1 -9	40.114	0	0	0.0546	47.662	0.058	0.1457	11.76	0.316	0.0339	0	100.15
X-Ray-1 -10	41.243	0	0	0.0429	49.356	0.064	0.1347	9.353	0.389	0.0097	0	100.59
X-Ray-1 -11	41.123	0	0.0171	0.0491	49.701	0.018	0.105	9.09	0.363	0.0085	0	100.47
X-Ray-1 -12	40.643	0.0207	0.0214	0	47.519	0.01	0.1414	11.94	0.233	0	0	100.53

Yankee-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Yankee-1 -1	dk purple	41.083	0.1128	17.5941	8.3034	19.646	5.601	0.427	7.038	0	0.0351	0	99.841
Yankee-1 -2	dk purple	41.728	0	21.1395	3.7334	20.316	4.35	0.555	8.161	0.024	0.0214	0.029	100.06
Yankee-1 -3	dk purple	41.734	0.0225	20.5415	4.2422	20.473	3.68	0.5954	8.726	0.034	0.0197	0.01	100.08
Yankee-1 -4	dk purple	41.389	0.0544	18.1697	7.2781	19.925	5.298	0.389	7.357	0.015	0.0252	0.009	99.909
Yankee-1 -5	dk purple	41.298	0.2636	18.9952	5.8802	19.954	5.289	0.4643	7.351	0	0.052	0	99.547
Yankee-1 -6	dk purple	41.083	0.093	17.8992	7.7389	19.487	5.61	0.4408	7.408	0	0.0224	0	99.783
Yankee-1 -7	dk purple	41.077	0.11	17.3144	7.9865	18.925	6.151	0.4809	7.741	0.009	0.0243	0	99.82
Yankee-1 -8	dk purple	41.739	0.2001	19.7193	5.2779	20.099	4.943	0.3813	7.846	0	0.0353	0.014	100.25
Yankee-1 -9	dk purple	41.07	0.2257	17.2318	8.5539	19.5	6.096	0.4825	7.1	0.066	0.05	0	100.38
Yankee-1 -10	dk purple	42.019	0.064	19.7796	5.4885	20.289	5.123	0.4209	7.52	0.066	0.0188	0.021	100.81
Yankee-1 -11	dk purple	40.782	0.0745	16.4153	9.7558	18.365	6.889	0.4214	7.438	0	0.0221	0	100.16
Yankee-1 -12	dk purple	41.668	0.0346	21.2499	3.3862	19.611	4.845	0.6753	8.58	0	0.0394	0	100.09
Yankee-1 -14	dk purple	41.301	0.0154	19.7477	5.6817	19.509	4.96	0.5579	8.016	0.041	0.0449	0	99.874
Yankee-1 -16	purple	41.615	0.0159	21.7252	2.5913	18.891	5.257	0.6962	9.447	0	0.0149	0.02	100.27
Yankee-1 -17	purple	41.575	0	21.0496	3.8108	20.002	4.919	0.5589	8.13	0.015	0.0103	0	100.07
Yankee-1 -18	purple	41.499	0.0976	19.8719	5.0054	20.164	5.1	0.4545	7.745	0.018	0.0504	0.006	100.01
Yankee-1 -19	purple	41.719	0	21.5092	3.0953	19.286	4.84	0.6823	8.997	0.004	0.019	0	100.15
Yankee-1 -20	purple	42.038	0.0192	21.7387	2.8169	20.886	3.66	0.5368	8.048	0.032	0.0195	0	99.796
Yankee-1 -21	purple	41.438	0.2564	19.2331	5.5486	20.083	5.207	0.4778	7.929	0.028	0.0494	0	100.25
Yankee-1 -22	purple	41.658	0.2324	20.1389	4.4344	20.087	4.82	0.4071	7.792	0	0.0377	0	99.607
Yankee-1 -23	purple	41.698	0.1723	19.7959	5.1254	20.201	4.948	0.4937	7.645	0	0.0501	0.008	100.14
Yankee-1 -24	purple	41.861	0.0367	21.7463	2.8862	20.03	5.435	0.408	7.552	0	0.0059	0	99.961
Yankee-1 -25	purple	41.943	0.0318	21.2024	3.6486	20.318	4.522	0.5785	8.227	0.025	0.023	0	100.52
Yankee-1 -26	purple	41.849	0	21.5076	3.1951	19.294	5.361	0.5731	8.645	0.004	0.0276	0	100.46
Yankee-1 -27	purple	41.705	0.0065	20.817	4.0485	20.377	3.874	0.6594	8.522	0.035	0.0503	0	100.1
Yankee-1 -28	purple	41.378	0.0126	20.9885	3.6719	20.075	4.726	0.486	8.155	0	0.0152	0	99.507
Yankee-1 -29	purple	41.491	0.0033	20.6874	4.0838	20.1	4.646	0.5183	8.046	0.022	0.0171	0.004	99.617
Yankee-1 -30	purple	41.772	0	21.1155	3.4755	20.752	3.651	0.4806	8.424	0	0.0436	0.026	99.74
Yankee-1 -31	purple	41.678	0	21.5362	3.162	20.284	4.745	0.589	8.168	0	0.017	0	100.18
Yankee-1 -32	purple	41.771	0.0052	21.4095	3.2526	20.464	4.373	0.5468	8.09	0	0.0305	0	99.942
Yankee-1 -33	purple	42.172	0.0159	21.0889	3.8245	20.51	4.246	0.5647	7.892	0.062	0.0258	0	100.4
Yankee-1 -34	purple	42.007	0	21.2128	3.5173	20.386	4.426	0.5524	7.995	0.003	0.0297	0.002	100.13
Yankee-1 -35	purple	41.567	0.1021	22.1353	2.1062	19.318	4.832	0.4719	9.611	0.004	0.0186	0.016	100.18
Yankee-1 -36	purple	42.178	0.0841	22.7378	1.524	19.335	5.313	0.4205	9.087	0.032	0.0084	0	100.72
Yankee-1 -37	purple	41.713	0	20.5371	4.3122	19.851	4.83	0.5588	8.005	0	0.0163	0	99.824
Yankee-1 -38	purple	41.815	0.0229	21.2924	3.7325	20.537	4.331	0.5791	7.963	0.025	0.0315	0	100.33
Yankee-1 -39	purple	41.521	0.267	20.2713	4.3156	20.767	4.163	0.3932	7.984	0	0.0639	0	99.746
Yankee-1 -40	purple	41.789	0.0238	20.5798	4.7608	20.217	4.613	0.5052	8.141	0	0.0136	0.039	100.68
Yankee-1 -41	purple	41.908	0.0019	21.1298	3.6682	20.232	4.672	0.5942	8.2	0.015	0.0197	0.044	100.48
Yankee-1 -42	purple	41.408	0.0182	19.6348	5.3678	19.67	4.968	0.4586	8.236	0	0.0343	0	99.795
Yankee-1 -43	purple	42.118	0.0178	21.193	3.5241	20.289	4.497	0.5481	8.13	0	0.0227	0.035	100.37
Yankee-1 -44	purple	41.62	0.1066	19.8897	5.0759	20.18	5.008	0.4366	7.53	0	0.0355	0	99.882
Yankee-1 -45	purple	42.137	0.0136	21.197	3.5454	20.124	4.733	0.5411	8.261	0.001	0.014	0	100.57
Yankee-1 -46	purple	41.852	0.0225	21.6642	3.0221	20.912	3.615	0.4878	8.319	0.016	0.0237	0.002	99.937
Yankee-1 -48	purple	41.681	0.0908	22.1516	2.1163	19.027	4.815	0.5126	10.12	0.013	0	0.05	100.58
Yankee-1 -49	purple	41.633	0.0197	21.633	2.9615	19.656	5.379	0.4119	8.391	0	0.0018	0	100.09
Yankee-1 -50	purple	41.593	0	20.8088	4.2381	19.472	4.703	0.6213	8.81	0.015	0.0251	0	100.29
Yankee-1 -51	purple	41.958	0.0201	21.3572	3.1551	20.907	3.843	0.5581	8.183	0.006	0.0213	0.013	100.02
Yankee-1 -52	purple	41.506	0.0188	21.4974	3.0288	19.235	5.377	0.4216	8.638	0.012	0	0	99.733
Yankee-1 -53	purple	41.651	0.0388	20.9797	3.7404	20.336	4.236	0.5718	8.165	0.031	0.0341	0	99.783
Yankee-1 -54	purple	41.644	0.0098	21.5708	3.226	20.208	4.512	0.4768	7.866	0.006	0.017	0	99.537
Yankee-1 -55	purple	41.843	0	21.5318	3.3214	20.395	4.218	0.541	8.377	0.024	0.0113	0.027	100.29
Yankee-1 -56	purple	42.017	0.0197	21.9184	2.7071	21.41	3.017	0.5611	8.336	0	0.0413	0.015	100.04
Yankee-1 -57	purple	41.878	0.0103	21.2821	3.7262	20.252	4.719	0.5817	8.076	0.062	0.0209	0.015	100.62
Yankee-1 -58	purple	41.862	0.0014	21.184	3.6599	20.69	4.053	0.5678	8.329	0	0.0195	0	100.37
Yankee-1 -59	purple	41.649	0.1149	22.1906	1.9918	19.182	4.774	0.4412	9.431	0.016	0.0325	0	99.823
Yankee-1 -60	purple	41.522	0.117	22.0512	2.0442	19.096	4.872	0.3973	9.692	0	0.0193	0	99.812
Yankee-1 -61	purple	41.501	0.0881	22.7567	0.888	18.456	4.49	0.4564	11.4	0.04	0.0233	0	100.1
Yankee-1 -62	purple	41.947	0.0023	22.2443	2.2097	19.555	4.993	0.6148	8.981	0.019	0.0084	0	100.58

Yankee-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Yankee-1 -63	purple	41.549	0.0239	21.3657	3.3091	19.642	4.921	0.5844	8.568	0	0.0074	0	99.97
Yankee-1 -64	purple	41.548	0.0033	21.7455	2.6465	18.622	5.843	0.6284	8.854	0.004	0.0015	0	99.897
Yankee-1 -65	purple	42.305	0.1872	22.0229	2.4393	21.139	4.48	0.3789	7.85	0	0.0249	0	100.83
Yankee-1 -66	purple	42.178	0.2467	20.8619	3.2512	20.246	4.691	0.3602	8.035	0	0.0496	0.007	99.927
Yankee-1 -67	purple	41.256	0.2694	19.2353	5.6213	20.078	5.29	0.4097	7.707	0	0.049	0.037	99.952
Yankee-1 -68	purple	41.647	0.2873	19.2404	5.6689	19.774	5.229	0.4577	7.731	0.025	0.0559	0.009	100.12
Yankee-1 -69	purple	41.706	0	21.5943	2.8523	19.379	5.059	0.5584	8.803	0	0.0219	0	99.974
Yankee-1 -70	purple	41.346	0.1037	17.6583	8.4229	19.752	5.704	0.4428	6.915	0.048	0.0383	0.007	100.44
Yankee-1 -71	purple	41.742	0.0136	21.0796	3.7952	19.837	4.759	0.6129	8.199	0.01	0.0196	0.01	100.08
Yankee-1 -72	purple	42.09	0.0849	22.1011	2.4088	19.216	5.403	0.5212	9.106	0.009	0.0255	0.005	100.97
Yankee-1 -73	purple	41.736	0.1568	20.219	4.4836	20.608	4.815	0.3484	7.742	0	0.0195	0.004	100.13
Yankee-1 -74	purple	41.606	0.0539	22.5717	1.092	18.475	4.515	0.4468	11.16	0.004	0.0362	0	99.96
Yankee-1 -75	purple	41.957	0.1173	20.7937	3.8182	20.544	4.793	0.4082	7.71	0	0.0322	0	100.17
Yankee-1 -76	purple	41.732	0	21.1202	3.7179	18.413	6.207	0.6049	9.039	0.013	0	0	100.85
Yankee-1 -77	purple	41.738	0.0108	20.7349	4.3499	20.214	4.379	0.5142	7.917	0.007	0.0181	0	99.883
Yankee-1 -78	purple	41.52	0.0169	20.7879	4.2951	19.856	4.875	0.5678	8.145	0.022	0.018	0.016	100.12
Yankee-1 -79	purple	41.9	0.2537	21.1197	3.0826	20.694	4.583	0.379	7.838	0.022	0.0595	0.019	99.951
Yankee-1 -80	purple	40.811	0.0688	20.667	3.3883	16.434	7.487	0.8333	9.895	0.006	0.0577	0	99.649
Yankee-1 -81	purple	42.007	0.0384	20.7872	3.811	20.219	4.928	0.3854	8.215	0.031	0.0127	0.018	100.45
Yankee-1 -82	purple	41.699	0.0688	22.9177	0.8087	18.325	4.389	0.4548	11.86	0	0.0108	0.001	100.54
Yankee-1 -83	purple	41.559	0	21.1889	3.4229	18.297	5.553	0.5393	9.49	0	0.001	0.015	100.07
Yankee-1 -84	purple	41.56	0.2594	19.1881	5.6936	19.837	5.287	0.4691	7.616	0	0.0527	0.019	99.982
Yankee-1 -85	purple	41.524	0.0542	20.7374	4.1276	19.858	4.586	0.6375	8.264	0	0.0242	0	99.813
Yankee-1 -86	purple	41.674	0.0281	20.8845	3.8614	20.076	4.611	0.46	8.073	0.006	0.007	0	99.682
Yankee-1 -87	purple	41.258	0.2706	19.2017	5.781	19.734	5.273	0.3933	7.583	0.013	0.0455	0	99.554
Yankee-1 -88	purple	41.802	0.038	21.244	3.5788	20.084	4.857	0.6314	8.182	0.072	0.0103	0	100.5
Yankee-1 -89	purple	41.759	0.0253	21.7286	2.9519	19.45	5.199	0.6681	8.644	0	0.0095	0	100.44
Yankee-1 -90	purple	41.873	0.023	21.2155	3.3673	20.215	4.647	0.547	8.119	0.012	0.0187	0	100.04
Yankee-1 -91	purple	42.02	0.0367	20.7026	3.9303	20.283	5.093	0.3652	8.003	0.021	0.0181	0.008	100.48
Yankee-1 -92	purple	41.997	0.0033	21.1678	3.6987	20.127	4.681	0.603	8.076	0	0.0087	0	100.36
Yankee-1 -93	red	40.82	0.1736	17.6619	7.5403	18.036	6.706	0.4858	8.283	0.035	0.0166	0.006	99.765
Yankee-1 -94	red	38.726	0.1785	21.7095	0.0817	7.3439	10.49	0.5229	20.91	0.045	0.0327	0	100.03
Yankee-1 -95	red	38.586	0.1575	21.1286	0.0093	6.9557	7.422	0.4341	25.73	0	0.0153	0	100.44
Yankee-1 -96	red	42.155	0.1374	21.9471	2.3495	21.02	4.379	0.4385	7.706	0.012	0.0304	0.027	100.2
Yankee-1 -97	red	39.127	0.0894	21.8535	0.0156	8.9347	6.75	0.4494	23.35	0.019	0.0212	0.031	100.64
Yankee-1 -98	red	40.279	0.1367	20.4032	2.9292	14.251	6.368	0.5507	14.94	0	0	0	99.854
Yankee-1 -99	red	41.414	0.2923	19.4972	5.7123	20.097	5.158	0.4408	7.862	0.025	0.0403	0	100.54
Yankee-1 -100	red	41.9	0.2741	20.834	3.2424	20.672	4.64	0.3632	8.179	0.049	0.0359	0.008	100.2
Yankee-1 -101	red	40.149	0.166	20.2607	2.7703	14.4	6.465	0.5521	15.08	0.029	0.0149	0.012	99.901
Yankee-1 -102	red	41.788	0.1914	19.7311	5.1188	20.266	4.834	0.4034	7.623	0	0.0372	0.03	100.02
Yankee-1 -103	red	41.713	0.2569	20.0414	4.7342	20.02	4.831	0.4371	7.954	0.012	0.0474	0	100.05
Yankee-1 -104	red	40.385	0.1427	20.7535	2.6956	14.273	6.301	0.6204	15.23	0	0.0129	0	100.41
Yankee-1 -105	red	41.21	0.0813	19.1202	5.7165	19.511	5.753	0.3343	7.915	0.003	0.0196	0	99.664
Yankee-1 -106	red	41.353	0.2874	20.8809	3.16	18.747	4.925	0.4714	10.35	0.035	0.0467	0.017	100.27
Yankee-1 -107	red	38.888	0.1032	21.3718	0.0005	6.6011	7.831	0.6379	25.58	0.019	0.0171	0	101.05
Yankee-1 -108	red	41.56	0.1914	21.5908	2.6779	19.973	4.67	0.4557	8.925	0.06	0.0488	0	100.15
Yankee-1 -109	red	40.004	0.1118	22.3812	0.0039	12.008	7.014	0.4711	17.93	0	0.0427	0	99.964
Yankee-1 -111	red	41.491	0.3283	18.9863	6.0118	19.353	5.5	0.3941	8.471	0.032	0.0615	0	100.63
Yankee-1 -112	red	41.54	0.081	21.6863	3.0207	19.068	5.136	0.583	9.557	0.028	0.016	0	100.72
Yankee-1 -113	red	41.642	0	21.1117	3.3639	18.541	5.839	0.5118	8.74	0.012	0.0031	0	99.764
Yankee-1 -114	red	40.024	0.0318	21.7623	1.2334	12.695	5.676	0.4962	18.64	0.005	0	0	100.56
Yankee-1 -115	red	41.547	0.4549	20.2451	3.1891	19.268	5.417	0.4188	9.271	0	0.0748	0	99.885
Yankee-1 -116	red	40.675	0.2185	16.3681	9.0192	18.856	6.372	0.4286	6.872	0	0.0548	0	98.864
Yankee-1 -117	red	39.369	0.0722	21.6335	0.022	8.6166	7.811	0.4112	22.49	0.028	0.0307	0.004	100.49
Yankee-1 -118	red	42.167	0.3003	22.1278	1.7238	20.406	4.074	0.3774	9.106	0	0.0597	0.05	100.39
Yankee-1 -119	red	38.437	0.1054	21.3754	0.0153	6.7157	6.211	0.7066	27	0.019	0.0192	0.006	100.61
Yankee-1 -120	red	38.415	0.0795	21.5578	0.1615	6.7809	5.568	0.4568	27.52	0	0.0164	0.01	100.56
Yankee-1 -121	red	41.452	0.0295	20.7209	4.0632	19.473	4.563	0.7179	8.829	0.04	0.0283	0	99.916
Yankee-1 -122	red	38.252	0.1445	21.2253	0	6.7682	6.319	0.6831	27.14	0.03	0.0147	0	100.58

Yankee-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Yankee-1 -123	red	41.624	0.2624	21.6287	2.4466	19.975	4.518	0.4012	8.969	0	0.0432	0.019	99.887
Yankee-1 -124	red	41.154	0.2958	18.8106	5.866	19.278	5.423	0.4405	8.333	0	0.0589	0	99.661
Yankee-1 -125	red	41.509	0.1197	21.8089	2.446	19.08	5.214	0.5584	9.156	0.044	0.0192	0	99.956
Yankee-1 -126	red	41.592	0.2641	19.1598	5.7102	19.981	5.193	0.4158	7.841	0.047	0.0418	0.032	100.28
Yankee-1 -127	red	39.247	0.075	22.0054	0.062	8.7882	7.778	0.4582	22.55	0.01	0.0135	0.051	101.03
Yankee-1 -128	red	39.093	0.0432	21.8297	0.0143	8.37	7.67	0.5048	23.06	0.029	0.0173	0.008	100.64
Yankee-1 -129	red	40.336	0.1316	20.3528	2.8556	14.231	6.27	0.6287	15.12	0.054	0.0101	0	99.991
Yankee-1 -130	red	41.78	0.1936	21.4905	2.6649	19.882	4.637	0.3988	8.724	0	0.0342	0.005	99.809
Yankee-1 -131	red	41.721	0.322	19.3046	5.7552	20.05	5.368	0.4873	7.776	0	0.0564	0	100.84
Yankee-1 -132	red	39.339	0.0273	21.7933	0.0761	7.8513	9.833	0.5561	21.12	0	0.0078	0	100.6
Yankee-1 -133	red	39.205	0.066	21.668	0.0835	9.46	6.121	0.5889	23.51	0.015	0.017	0	100.73
Yankee-1 -134	red	41.425	0.2477	19.18	5.7058	19.946	5.267	0.458	7.709	0	0.048	0	99.987
Yankee-1 -135	red	38.626	0.1068	21.2887	0.0576	7.004	7.388	0.7123	25.43	0	0	0	100.62
Yankee-1 -137	red	41.474	0.2871	19.4061	5.5706	19.973	5.35	0.4411	7.601	0	0.052	0	100.16
Yankee-1 -139	red	40.41	0.089	20.9253	2.5667	14.138	6.334	0.6609	15.42	0	0.0081	0	100.56
Yankee-1 -140	red	41.589	0.2506	19.8812	4.9391	20.093	5.266	0.3586	7.567	0.055	0.0465	0	100.05
Yankee-1 -141	red	38.505	0.0917	21.1389	0	6.0295	6.762	1.0454	27.3	0.039	0	0.002	100.91
Yankee-1 -142	red	40.14	0.1345	20.6547	2.5617	14.382	6.271	0.6753	15.28	0	0	0	100.09
Yankee-1 -143	red	41.939	0.3027	21.8735	1.7427	20.348	4.128	0.3861	9.286	0.016	0.0605	0.008	100.09
Yankee-1 -144	red	40.2	0.1182	20.6407	2.6034	13.918	6.346	0.6481	15.55	0	0.0239	0.049	100.09
Yankee-1 -145	red	38.409	0.0955	21.0815	0.0212	6.5116	6.23	0.7248	26.96	0.044	0.0123	0	100.09
Yankee-1 -146	red	41.341	0.3011	19.1651	5.7959	19.784	5.207	0.3893	7.54	0.009	0.048	0	99.58
Yankee-1 -147	red	41.577	0.2894	19.1622	5.8284	19.877	5.378	0.4397	7.67	0.035	0.0445	0.019	100.32
Yankee-1 -148	red	40.907	0.0266	22.5254	0.3283	16	4.878	0.4043	14.99	0.003	0.0069	0	100.07
Yankee-1 -150	red	40.357	0.1329	20.7314	2.5675	14.19	6.249	0.6346	15.01	0	0.0009	0.034	99.904
Yankee-1 -151	red	41.944	0.3078	21.5011	2.4833	20.482	4.089	0.4054	8.963	0.013	0.0482	0.037	100.27
Yankee-1 -152	red	39.255	0.0597	21.7259	0.02	8.8978	6.623	0.4567	23.36	0.076	0.0152	0	100.49
Yankee-1 -153	red	41.592	0.1109	19.2378	5.7085	20.09	5.328	0.3458	7.867	0	0.0251	0	100.3
Yankee-1 -154	red	40.182	0.089	20.7823	2.6667	13.722	6.416	0.6973	15.52	0	0.0143	0	100.09
Yankee-1 -156	red	39.206	0.0285	21.9961	0.0608	9.1465	6.377	0.4872	23.14	0.019	0.0127	0	100.48
Yankee-1 -157	red	36.737	0.0241	20.3354	0	1.5633	5.447	5.417	30.35	0.046	0.0057	0.004	99.932
Yankee-1 -158	red	40.315	0.0895	21.2473	1.7552	14.165	6.048	0.5521	16.24	0.061	0.0105	0	100.49
Yankee-1 -159	red	41.174	0.1551	18.2403	6.8735	19.657	5.553	0.3905	7.369	0	0.0354	0	99.448
Yankee-1 -160	red	38.957	0.1154	21.484	0.0709	8.746	6.402	0.5486	23.82	0.007	0.0197	0.006	100.18
Yankee-1 -161	red	38.543	0.076	21.2365	0	6.6295	6.763	0.9041	26.42	0	0.0071	0	100.58
Yankee-1 -163	orange	39.285	0.0439	21.7278	0.08	7.3093	10.52	0.4533	21.39	0	0.0149	0	100.82
Yankee-1 -165	orange	39.101	0.0551	21.6843	0.0649	7.4115	10.12	0.5138	21.01	0	0.0105	0	99.97
Yankee-1 -168	orange	39.319	0.0437	22.1653	0.107	10.903	2.81	0.5536	24.68	0	0.0087	0	100.59
Yankee-1 -170	orange	38.869	0.0835	21.5052	0.1293	7.8851	5.807	0.7571	25.42	0.036	0.0014	0.005	100.5
Yankee-1 -171	orange	38.847	0.0991	21.7281	0.0618	7.8027	7.62	0.4674	23.78	0.039	0.0044	0.021	100.47
Yankee-1 -173	orange	38.47	0.0729	21.2511	0.016	6.3103	7.088	0.9403	26.44	0.009	0.0012	0.009	100.61
Yankee-1 -174	orange	38.77	0.0611	21.5732	0.0167	7.4184	10.28	0.5594	21.02	0.039	0.0131	0	99.744
Yankee-1 -177	orange	41.7	0.1069	23.1896	0.1623	18.213	4.599	0.5048	12.18	0	0.0363	0	100.69
Yankee-1 -178	orange	38.926	0.1106	21.5976	0	8.1434	7.204	0.3887	24.5	0	0.0133	0	100.88
Yankee-1 -180	orange	39.032	0.0422	21.7714	0.086	8.064	7.287	0.5864	23.59	0.031	0.0118	0.019	100.52
Yankee-1 -183	orange	40.033	0.1417	20.5151	2.7417	14.136	6.4	0.6189	15.13	0.059	0.0042	0.003	99.787
Yankee-1 -185	orange	38.959	0.0593	21.6715	0.0631	7.4623	10.13	0.4876	21.12	0	0.0167	0	99.967
Yankee-1 -186	dk purple	42.268	0	21.6261	3.1528	20.758	4.074	0.474	8.139	0	0.0192	0	100.51
Yankee-1 -187	dk purple	41.697	0.1025	19.8422	5.0658	20.106	4.922	0.4497	7.559	0.007	0.0349	0.025	99.81
Yankee-1 -188	dk purple	41.109	0.0577	17.8213	7.5668	19.428	5.847	0.4694	7.389	0	0.0185	0	99.707
Yankee-1 -189	dk purple	41.58	0.2139	18.4302	6.82	20.019	5.397	0.4359	7.335	0.018	0.0514	0	100.3
Yankee-1 -190	dk purple	41.876	0.2969	19.2368	5.5916	19.778	5.269	0.4826	7.624	0.01	0.0419	0	100.21
Yankee-1 -191	dk purple	41.614	0.0056	19.4149	6.2621	19.53	5.082	0.5477	8.111	0	0.0259	0	100.59
Yankee-1 -192	dk purple	41.91	0.0019	20.2639	4.7083	20.116	4.64	0.4955	8.044	0	0.045	0.014	100.24
Yankee-1 -193	dk purple	41.407	0.0154	19.4683	5.6716	19.645	5.06	0.5368	8.21	0	0.0288	0	100.04
Yankee-1 -194	dk purple	41.464	0.236	18.4614	6.9305	19.788	5.392	0.4791	7.634	0	0.0641	0	100.45
Yankee-1 -195	purple	41.827	0.2223	19.9188	4.3599	20.21	4.963	0.458	7.788	0	0.0497	0.007	99.803
Yankee-1 -196	purple	41.759	0.0295	20.8568	4.122	20.46	4.677	0.5352	7.943	0	0.0232	0	100.41
Yankee-1 -197	purple	41.691	0.051	21.0693	3.7183	18.939	5.714	0.5852	8.901	0	0.0118	0	100.68

Yankee-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Yankee-1 -198	purple	42.128	0.0928	22.221	2.0908	19.332	4.913	0.4554	9.457	0	0.0261	0.012	100.73
Yankee-1 -199	purple	41.604	0.0201	22.8824	0.9431	18.016	4.52	0.5018	12.04	0	0.0086	0	100.54
Yankee-1 -200	purple	41.582	0.0589	22.9239	0.9063	18.232	4.525	0.4291	11.97	0	0.0065	0	100.64
Yankee-1 -201	purple	41.767	0.0159	21.4624	3.3513	20.86	3.817	0.5229	8.296	0	0.0211	0	100.11
Yankee-1 -202	purple	41.506	0	19.9267	5.2951	20.204	4.913	0.4545	8.163	0	0.0263	0.018	100.51
Yankee-1 -203	purple	42.155	0.0005	21.4935	3.2514	21.719	2.818	0.6395	8.261	0.012	0.0497	0	100.4
Yankee-1 -204	purple	41.882	0	21.6079	2.9548	19.489	5.063	0.5762	8.629	0.041	0.0093	0.01	100.26
Yankee-1 -205	purple	41.887	0.0197	21.0722	3.9297	20.528	4.279	0.5466	7.993	0.037	0.0349	0	100.33
Yankee-1 -206	purple	41.667	0.0248	20.8958	3.825	19.936	4.743	0.6799	8.157	0	0.0381	0	99.966
Yankee-1 -207	purple	41.467	0.0261	19.7485	5.2742	19.826	4.849	0.5331	7.999	0.056	0.0245	0.014	99.817
Yankee-1 -208	purple	41.804	0.0136	20.9323	3.7127	20.452	4.361	0.5015	8.315	0.043	0.0171	0.008	100.16
Yankee-1 -209	purple	42.15	0	21.2974	3.7468	20.68	4.218	0.5213	8.141	0.024	0.0246	0.013	100.82
Yankee-1 -210	purple	41.755	0.0253	20.9833	3.9104	20.004	4.47	0.5605	8.582	0.029	0.043	0	100.36
Yankee-1 -211	red	40.597	0.1519	20.752	2.4584	14.483	6.22	0.6239	15.3	0	0.0107	0.031	100.63
Yankee-1 -212	red	40.526	0.1228	20.6626	2.4538	14.41	6.295	0.6757	15.09	0	0	0.007	100.25
Yankee-1 -213	purple	41.908	0.0914	21.9835	2.1081	19.103	4.702	0.4567	9.578	0.01	0.0207	0.019	99.981
Yankee-1 -214	purple	42.417	0.022	22.2617	2.3473	22.366	2.215	0.5659	8.071	0.019	0.0487	0	100.33
Yankee-1 -215	purple	41.929	0.0136	20.959	3.8933	20.322	4.294	0.4849	8.2	0	0.0405	0	100.14
Yankee-1 -216	purple	42.022	0.0834	22.2359	1.9729	19.224	4.759	0.4775	9.895	0.057	0.0188	0	100.74
Yankee-1 -217	purple	41.679	0	21.5428	3.1623	19.358	5.268	0.5199	8.586	0.003	0.013	0.003	100.14
Yankee-1 -218	purple	41.897	0.0112	20.9381	4.0945	20.232	4.409	0.5856	8.393	0	0.0375	3E-04	100.6
Yankee-1 -219	purple	42.024	0	21.5942	3.2934	19.891	5.001	0.6827	8.611	0.013	0.0148	0	101.13
Yankee-1 -220	purple	41.64	0.0904	21.5456	2.628	18.887	5.65	0.6054	9.38	0.018	0.0209	0	100.47
Yankee-1 -221	purple	41.96	0.022	21.2414	3.5563	19.403	5.509	0.5241	8.526	0.012	0.0105	0.033	100.8
Yankee-1 -222	purple	42.041	0.0864	21.911	2.5363	19.335	5.195	0.3967	8.846	0	0.0134	0	100.36
Yankee-1 -223	purple	41.567	0.256	19.2517	5.5872	19.917	5.139	0.4325	7.55	0.004	0.0504	0.003	99.759
Yankee-1 -224	purple	41.994	0.2983	19.7853	5.0312	21.093	4.195	0.423	7.491	0	0.0841	0	100.39
Yankee-1 -225	purple	41.799	0.0098	21.1687	3.5528	20.737	3.771	0.6139	8.506	0	0.022	0.006	100.18
Yankee-1 -226	purple	41.849	0.0352	21.889	2.6962	19.882	4.858	0.5218	8.68	0.05	0	0	100.46
Yankee-1 -227	purple	41.762	0.1181	21.5717	3.1336	19.476	5.265	0.5213	8.783	0.013	0.0291	0.002	100.67
Yankee-1 -228	purple	41.73	0.0262	20.7015	4.1626	20.255	4.637	0.51	8.114	0.031	0.0204	0.032	100.22
Yankee-1 -229	purple	41.65	0.0402	21.1073	3.5377	19.822	4.473	0.6392	8.735	0.025	0.0308	0	100.06
Yankee-1 -230	purple	41.953	0	21.2114	3.6556	20.354	4.308	0.5597	8.035	0.034	0.0207	0	100.13
Yankee-1 -231	purple	41.672	0.0117	21.0612	3.6434	19.534	5.031	0.8144	8.911	0	0.0218	0	100.7
Yankee-1 -232	purple	41.26	0.0635	20.0236	4.9587	19.597	4.99	0.577	8.017	0	0.0334	0	99.52
Yankee-1 -233	purple	42.06	0.0084	20.9239	3.8603	20.496	4.356	0.5837	7.686	0.003	0.0287	0	100.01
Yankee-1 -234	purple	41.79	0.0972	19.9819	4.9384	20.205	4.965	0.4577	7.855	0.009	0.0364	0	100.34

Yankee-1 Chromite

Sample	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Yankee-1 -1	0.03	0.1	0	0.006	8.4559	54.109	0.304	8.284	0.025	0.552	27.595	0.11	0.253	99.826	7.8826	20.5	100.62
Yankee-1 -2	0.116	0.05	0.032	0.048	10.003	53.219	0.235	8.604	0.018	0.392	26.609	0.086	0.288	99.699	6.9366	20.37	100.39
Yankee-1 -3	0.032	0.08	0	0.033	11.032	56.306	0.482	11.25	0.073	0.332	20.552	0.075	0.119	100.37	3.8741	17.07	100.76
Yankee-1 -4	0.029	0.77	0	0	2.3906	57.831	0.357	8.021	0.064	0.499	29.008	0.114	0.118	99.2	9.3689	20.58	100.14
Yankee-1 -5	0.048	3.53	0	0.015	1.314	51.578	0.413	7.314	0.001	0.522	33.79	0.136	0.146	98.811	10.876	24	99.901
Yankee-1 -6	0.036	0.53	0.0126	0.008	5.6478	53.962	0.309	8.159	0	0.519	30.246	0.123	0.087	99.638	10.442	20.85	100.68
Yankee-1 -7	0.018	0.17	0	0	9.9605	55.09	0.337	10.41	0.06	0.46	22.753	0.107	0.103	99.467	5.714	17.61	100.04
Yankee-1 -8	0.002	0.28	0	0	7.4522	54.605	0.17	9.126	0.046	0.604	27.158	0.111	0.274	99.828	9.1865	18.89	100.75
Yankee-1 -9	0.021	0.01	0	0.017	8.8104	55.023	0.435	9.344	0.024	0.579	25.213	0.056	0.211	99.742	6.8269	19.07	100.43
Yankee-1 -10	0.015	0.2	0.0396	0.022	10.19	55.657	0.371	10.75	0.018	0.282	22.301	0.075	0.177	100.1	5.173	17.65	100.62
Yankee-1 -11	0.022	0.08	0	0	2.8448	59.389	0.477	8.071	0.035	0.713	27.953	0.043	0.149	99.778	8.6572	20.16	100.65
Yankee-1 -12	0.039	0.05	0	0.02	10.299	51.665	0.257	9.299	0.029	0.488	26.841	0.134	0.207	99.328	8.6369	19.07	100.19
Yankee-1 -13	0.006	1.73	0	0	2.1044	55.048	0.38	7.925	0.046	0.48	31.041	0.166	0.107	99.035	10.583	21.52	100.1
Yankee-1 -14	0.031	0.14	0.0038	0	8.3567	53.595	0.444	8.3	0.043	0.41	27.995	0.099	0.192	99.608	7.9578	20.83	100.41
Yankee-1 -15	0.056	0.35	0.0152	0	6.9149	55.132	0.332	9.019	0.084	0.41	26.857	0.146	0.25	99.566	8.2754	19.41	100.4
Yankee-1 -16	0.035	0.19	0	0	8.2963	54.878	0.249	9.964	0.057	0.521	24.579	0.064	0.069	98.903	7.5258	17.81	99.657
Yankee-1 -17	0.015	0.13	0	0	7.2268	54.785	0.291	9.458	0.037	0.458	26.771	0.143	0.166	99.483	9.1561	18.53	100.4
Yankee-1 -18	0.022	0.14	0	0	7.2151	55.217	0.286	9.437	0	0.479	26.019	0.115	0.253	99.186	8.4259	18.44	100.03
Yankee-1 -19	0.036	0.3	0	0	7.6404	53.266	0.351	8.291	0.083	0.581	28.974	0	0.303	99.83	9.2924	20.61	100.76
Yankee-1 -20	0.004	0.09	0	0	7.7731	55.693	0.314	9.966	0.065	0.4	24.668	0.054	0.087	99.113	7.5628	17.86	99.871
Yankee-1 -21	0.009	0.22	0	0	8.6915	53.79	0.324	9.718	0.053	0.468	26.026	0.123	0.169	99.593	8.3616	18.5	100.43
Yankee-1 -22	0.033	0.25	0.0191	0.047	8.597	56.434	0.266	9.888	0	0.332	23.574	0.054	0.201	99.695	5.6844	18.46	100.26
Yankee-1 -23	0.014	2.31	0.005	0.039	1.4099	58.767	0.502	8.64	0.075	0.388	27.453	0.076	0.105	99.779	6.7515	21.38	100.46
Yankee-1 -24	0.044	0.13	0	0.022	11.705	49.931	0.34	9.353	0.043	0.347	27.077	0.19	0.159	99.335	8.3925	19.53	100.18
Yankee-1 -25	0.052	0.29	0	0.042	2.7158	60.839	0.448	8.506	0.011	0.713	26.178	0.076	0.149	100.02	7.1653	19.73	100.74
Yankee-1 -26	0.031	1.34	0.0025	0	1.344	61.17	0.216	8.944	0.008	0.517	25.966	0.119	0.139	99.794	7.2118	19.48	100.52
Yankee-1 -27	0.011	3	0	0	1.3155	55.345	0.454	7.858	0.019	0.587	30.511	0.085	0.071	99.257	8.529	22.84	100.11
Yankee-1 -28	0.033	0.11	0.0255	0	9.9242	53.403	0.439	8.982	0.007	0.495	25.953	0.087	0.214	99.668	6.6478	19.97	100.33
Yankee-1 -29	0.004	0.08	0.0089	0	9.9885	57.007	0.396	10.42	0.05	0.328	21.786	0.098	0.087	100.25	4.207	18	100.67
Yankee-1 -30	0.016	0.15	0.0063	0.019	7.3427	55.809	0.281	9.225	0.085	0.504	25.921	0.122	0.074	99.551	7.7755	18.92	100.33
Yankee-1 -31	0.033	0.06	0	0.07	10.135	55.754	0.333	10.27	0.03	0.346	22.915	0.15	0.095	100.19	5.304	18.14	100.72
Yankee-1 -32	0	0.23	0	0.028	10.564	56.792	0.289	11.11	0.045	0.237	20.432	0.03	0.085	99.837	3.7753	17.03	100.22
Yankee-1 -33	0.013	0.08	0.0242	0.047	9.4019	55.036	0.39	9.347	0.047	0.426	25.1	0.073	0.151	100.14	6.2623	19.47	100.77
Yankee-1 -34	0.033	0.26	0	0.021	5.6612	55.696	0.421	8.759	0	0.415	28.054	0.139	0.082	99.543	9.0631	19.9	100.45
Yankee-1 -35	0.017	3.34	0	0.031	1.2034	51.862	0.477	7.273	0.013	0.584	34.271	0.155	0.099	99.321	11.35	24.06	100.46
Yankee-1 -36	0.024	0.93	0	0	1.3567	60.781	0.289	8.238	0.066	0.364	27.355	0.098	0.086	99.587	7.7403	20.39	100.36
Yankee-1 -37	0.01	0.27	0	0	5.8391	55.676	0.529	8.846	0	0.539	27.98	0.08	0.126	99.896	8.9452	19.93	100.79
Yankee-1 -38	0.022	0.02	0.0243	0.009	10.125	57.063	0.345	10.48	0.026	0.418	20.889	0.042	0.223	99.68	3.7474	17.52	100.06
Yankee-1 -39	0.032	0.75	0	0	3.5884	59.771	0.415	8.548	0	0.376	26.141	0.036	0.102	99.758	6.3204	20.45	100.39
Yankee-1 -40	0.033	1.64	0.0277	0	3.7091	58.174	0.414	9.573	0.027	0.417	25.257	0.161	0.055	99.487	6.4038	19.49	100.13
Yankee-1 -41	0.028	0.3	0	0.044	10.768	54.644	0.402	10.11	0.067	0.437	23.08	0.113	0.231	100.23	4.994	18.59	100.73
Yankee-1 -42	0.029	0.18	0.0038	0	8.9414	55.814	0.271	8.85	0.036	0.344	25.566	0.064	0.058	100.16	5.9392	20.22	100.75
Yankee-1 -43	0.008	0	0	0	9.4034	56.1	0.299	9.737	0.018	0.295	23.579	0.072	0.14	99.651	5.5241	18.61	100.2
Yankee-1 -44	0.019	0.09	0	0.011	8.5364	56.412	0.189	9.195	0.012	0.423	24.603	0.099	0.106	99.694	6.0788	19.13	100.3
Yankee-1 -45	0.032	0.23	0.0292	0	7.7116	54.189	0.327	8.972	0	0.518	27.298	0.174	0.14	99.621	8.5987	19.56	100.48
Yankee-1 -46	0.014	0.06	0	0	8.6547	55.385	0.201	8.343	3E-04	0.362	26.988	0.016	0.113	100.14	6.9324	20.75	100.84
Yankee-1 -47	0	0	0	0.043	10.296	56.19	0.336	10.5	3E-04	0.228	22.104	0.064	0.265	100.03	4.8581	17.73	100.52
Yankee-1 -48	0.042	0.16	0.028	0	8.9871	57.782	0.246	10.15	0.066	0.526	21.485	0.105	0.199	99.775	4.2316	17.68	100.2
Yankee-1 -49	0.004	0.17	0.0281	0	9.8756	55.063	0.371	9.739	0.045	0.377	24.169	0.035	0.14	100.01	5.7367	19.01	100.59
Yankee-1 -50	0.025	4.2	0	0	0.934	46.989	0.628	6.393	0.071	0.636	38.922	0.086	0.183	99.071	14.129	26.21	100.49
Yankee-1 -51	0.018	0.27	0	0	8.449	54.502	0.366	9.688	0.034	0.487	24.987	0.122	0.251	99.176	7.3114	18.41	99.908
Yankee-1 -52	0.037	3.69	0	0.02	0.884	49.012	0.527	6.4	0.057	0.497	37.487	0.146	0.183	98.937	13.175	25.63	100.26
Yankee-1 -53	0.018	1.31	0.0089	0.009	5.3241	54.466	0.397	9.048	0.042	0.57	27.854	0.074	0.261	99.387	8.8059	19.93	100.27
Yankee-1 -54	0.044	0.05	0.0282	0	10.747	55.895	0.459	10.98	0.008	0.468	21.038	0.105	0.189	100.02	4.3333	17.14	100.45
Yankee-1 -55	0.021	0.24	0	0.058	9.8859	56.642	0.35	11.17	0.051	0.432	20.763	0.065	0.119	99.795	4.4979	16.72	100.25
Yankee-1 -56	0.02	0.29	0	0	7.4231	54.637	0.378	9.458	0.022	0.512	26.902	0.103	0.293	100.04	8.8801	18.91	100.93
Yankee-1 -57	0.038	0.05	0	0	11.156	52.027	0.201	9.598	0.028	0.625	25.272	0.171	0.188	99.357	7.5441	18.48	100.11
Yankee-1 -58	0.033	0.21	0.0269	0	10.205	56.485	0.309	11.09	0.022	0.431	20.368	0.031	0.048	99.263	4.0084	16.76	99.665
Yankee-1 -59	0.026	0.58	0	0.006	4.3689	59.181	0.272	9.755	0.054	0.353	24.951	0.089	0.126	99.764	7.4386	18.26	100.51

Yankee-1 Chromite

Sample	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Yankee-1 -60	0.052	1.62	0	0	3.5723	58.547	0.395	9.73	0.029	0.453	25.104	0.107	0.11	99.719	6.5335	19.22	100.37
Yankee-1 -61	0.014	3.95	0	0.007	1.0226	49.388	0.561	6.943	0.031	0.669	37.188	0.169	0.18	100.12	13.215	25.3	101.45
Yankee-1 -62	0.039	2.96	0.005	0	3.6353	57.695	0.29	10.19	0.061	0.326	23.889	0.184	0.087	99.359	4.9209	19.46	99.852
Yankee-1 -63	0.037	0.75	0	0.005	7.0223	52.276	0.298	7.658	0.047	0.509	30.54	0.115	0.1	99.356	9.6584	21.85	100.32
Yankee-1 -64	0.024	0	0.037	0.001	9.6157	55.088	0.326	10.13	0.047	0.343	23.439	0.032	0.159	99.244	6.0977	17.95	99.855
Yankee-1 -65	1E-04	0.09	0	0.005	8.4965	55.671	0.165	8.996	0.059	0.477	25.123	0.146	0.23	99.458	6.7651	19.04	100.14
Yankee-1 -66	0.02	0.19	0	0	8.6007	55.416	0.243	9.838	0.115	0.453	24.684	0.094	0.201	99.857	7.2382	18.17	100.58
Yankee-1 -67	0.037	0.13	0	0.011	9.8404	55.604	0.265	10.13	0.005	0.237	22.999	0.126	0.228	99.613	5.4443	18.1	100.16
Yankee-1 -68	0.044	0.18	0.0192	0.023	9.8349	56.5	0.247	9.68	0.036	0.438	22.293	0.075	0.119	99.488	4.0029	18.69	99.889
Yankee-1 -69	0.023	0.08	0	0	9.309	57.415	0.292	10.96	0.035	0.502	21.056	0.084	0.024	99.78	4.8326	16.71	100.26
Yankee-1 -70	0.023	0.33	0	0.022	10.184	56.22	0.374	10.46	0.027	0.378	21.637	0.072	0.191	99.911	4.061	17.98	100.32
Yankee-1 -71	0.01	0.06	0.0128	0	10.815	56.378	0.449	10.61	0.017	0.195	21.711	0.059	0.165	100.48	3.9784	18.13	100.88
Yankee-1 -72	0.023	2.93	0	0.01	1.9665	54.008	0.357	8.32	0.038	0.407	30.917	0.119	0.131	99.222	9.7844	22.11	100.2
Yankee-1 -73	0.029	0.07	0	0	10.047	55.239	0.406	10.3	0.029	0.345	22.72	0.072	0.172	99.43	5.3243	17.93	99.964
Yankee-1 -74	0.003	4.57	0.0213	0	0.5759	41.729	0.733	5.89	0.002	0.602	44.252	0.089	0.102	98.565	18.608	27.51	100.43
Yankee-1 -75	0.015	0.08	0	0.016	11.115	55.06	0.391	10.34	0.032	0.708	22.088	0.108	0.186	100.14	4.7362	17.83	100.62
Yankee-1 -76	0.028	0.11	0.0051	0.026	10.318	52.02	0.33	8.168	0.044	0.402	28.3	0.131	0.217	100.09	7.8318	21.25	100.88
Yankee-1 -77	0.035	0.93	0.0243	0	9.5054	50.859	0.451	10.39	0.025	0.292	26.932	0.155	0.072	99.67	9.0386	18.8	100.58
Yankee-1 -78	0.008	0.32	0.0076	0.049	7.2414	52.407	0.262	7.939	0	0.574	30.362	0.123	0.234	99.532	10.48	20.93	100.58
Yankee-1 -79	0.019	0.05	0.0076	0.026	8.4696	55.549	0.283	9.041	0.043	0.484	25.771	0.014	0.203	99.964	6.9835	19.49	100.66
Yankee-1 -80	0.016	0.07	0	0	9.1981	54.739	0.293	9.042	0.054	0.111	25.531	0.078	0.251	99.38	6.5194	19.67	100.03
Yankee-1 -81	0.013	0.12	0	0.045	9.6578	54.97	0.182	10.4	0.023	0.428	23.231	0.103	0.04	99.216	6.4972	17.38	99.867
Yankee-1 -82	0.015	0.11	0	0.069	9.457	54.591	0.288	9.816	0.047	0.24	24.929	0.095	0.127	99.782	6.9313	18.69	100.48
Yankee-1 -83	0.031	0.2	0.0242	0	8.8191	55.437	0.33	9.808	0.065	0.404	24.069	0.052	0.064	99.307	6.1693	18.52	99.925
Yankee-1 -84	0.055	0.15	0.0179	0	9.8149	54.496	0.254	10.19	0.044	0.429	23.456	0.119	0.199	99.225	6.3689	17.73	99.863
Yankee-1 -85	0.023	0.07	0.0282	0	11.385	55.732	0.307	11.25	0.05	0.456	20.302	0.06	0.088	99.755	4.1168	16.6	100.17
Yankee-1 -86	0.051	0.16	0	0.014	8.7524	53.994	0.275	8.883	0	0.475	26.353	0.007	0.275	99.234	7.4414	19.66	99.979
Yankee-1 -87	0.056	0.07	0	0	10.455	56.324	0.345	10.95	0.039	0.346	21.021	0.121	0.141	99.868	4.4214	17.04	100.31
Yankee-1 -88	0.018	0.05	0.0259	0	15.225	51.118	0.335	10.88	0.072	0.334	21.239	0.06	0.24	99.598	3.936	17.7	99.992
Yankee-1 -89	0.018	0.23	0	0.051	8.081	55.571	0.245	9.546	0.042	0.589	25.17	0.112	0.201	99.859	7.3782	18.53	100.6
Yankee-1 -90	0.015	0.62	0.005	0.047	2.5271	57.546	0.454	8.074	0	0.486	29.253	0.042	0.194	99.262	9.5544	20.66	100.22
Yankee-1 -91	0.018	0.97	0	0	3.9165	57.248	0.231	8.949	0.046	0.442	27.109	0.097	0.166	99.187	8.5682	19.4	100.04
Yankee-1 -92	0.012	0.06	0.0395	0	8.9491	54.403	0.326	8.917	0.03	0.49	25.749	0.105	0.124	99.202	6.8549	19.58	99.889
Yankee-1 -93	0.027	1.43	0.0013	0	5.0085	53.409	0.172	8.885	0.016	0.534	29.734	0.148	0.087	99.45	10.713	20.09	100.52
Yankee-1 -94	0.016	0	0	0.071	8.5664	52.798	0.33	7.966	0.04	0.578	28.689	0.104	0.116	99.274	8.6679	20.89	100.14
Yankee-1 -95	0.002	0	0	0	11.153	54.297	0.418	10.02	0.059	0.337	23.341	0.105	0.13	99.861	5.2915	18.58	100.39
Yankee-1 -97	0.054	0.26	0.0205	0	9.441	55.86	0.183	10.39	0.025	0.457	22.457	0.122	0.226	99.49	5.6146	17.4	100.05
Yankee-1 -98	0.023	0.31	0.0051	0	8.3792	55.213	0.202	9.342	0.033	0.405	25.781	0.112	0.177	99.985	7.3743	19.15	100.72
Yankee-1 -99	0.02	0.78	0	0.012	3.1805	58.892	0.431	8.761	0.009	0.471	26.887	0.154	0.1	99.697	7.7727	19.89	100.48
Yankee-1 -100	0.047	0.36	0.0013	0	7.3762	55.008	0.32	9.422	0.006	0.322	26.392	0.111	0.106	99.467	8.0627	19.14	100.27

Yankee-1 Ilmenite

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
Yankee-1 -1	core	0.01	51.204	0.2244	0.0148	0.086	4.135	0.017	10.53	0	0.419	32.313	0.09	0.066	99.11	5.9001	27	99.701	55.7539	38.754	5.49246	100
Yankee-1 -2	core	0	49.577	0.3132	0.0471	0	2.62	0	8.399	0.01	0.352	37.724	0.047	0.042	99.136	9.1096	29.53	100.05	60.7212	30.81	8.4684	100
Yankee-1 -3	core	0	50.458	0.2859	0.0903	0	2.668	0.104	9.121	0.04	0.459	36.092	0.125	0	99.44	7.8578	29.02	100.23	59.3737	33.319	7.30733	100
Yankee-1 -4	core	0	51.511	0.2169	0.02	0.072	2.572	0.098	10.32	0.02	0.427	33.571	0.178	0.013	99.011	6.5202	27.7	99.664	56.4931	37.509	5.998	100
Yankee-1 -5	core	0	50.108	0.1736	0.0717	0.008	3.095	0.108	9.933	0	0.346	34.761	0.071	0.037	98.713	8.2789	27.31	99.543	55.9704	36.336	7.69393	100
Yankee-1 -6	core	0	51.437	0.2552	0.051	0.01	2.933	0.003	10.3	0.04	0.403	33.836	0.019	0.024	99.306	6.7924	27.72	99.986	56.3858	37.358	6.25651	100
Yankee-1 -7	core	0	49.447	0.2982	0.0322	0.01	2.679	0.063	8.481	0.05	0.475	37.031	0	0.055	98.619	8.7006	29.2	99.49	60.5169	31.343	8.13966	100
Yankee-1 -8	core	0.002	51.122	0.2614	0.0722	0	3.38	0.084	10.32	0.01	0.415	33.379	0.066	0	99.109	6.473	27.55	99.757	56.3314	37.657	6.01201	100
Yankee-1 -9	core	0.019	51.177	0.2613	0.058	0.023	2.75	0.222	9.863	0	0.48	34.148	0.059	0	99.065	6.1776	28.59	99.684	58.3569	35.924	5.71933	100
Yankee-1 -10	core	6E-04	46.934	0.2609	0.0665	0.037	2.239	0.375	6.864	0	0.364	41.926	0.073	0	99.14	12.75	30.45	100.42	62.8307	25.273	11.8964	100
Yankee-1 -11	core	0.005	51.903	0.2366	0.0916	0	2.555	0.161	10.4	0.01	0.56	33.639	0.136	0	99.697	6.2583	28.01	100.32	56.669	37.561	5.7695	100
Yankee-1 -12	core	0.016	48.681	0.3467	0.1084	0.042	2.902	0.297	8.735	0	0.553	37.852	0.062	0.032	99.629	10.401	28.49	100.67	58.3578	31.962	9.68054	100
Yankee-1 -13	core	0.005	50.328	0.2673	0.0522	5E-04	2.44	0.047	9.082	0.05	0.417	36.378	0.075	0	99.141	8.2906	28.92	99.972	59.1714	33.153	7.6759	100
Yankee-1 -14	core	6E-04	48.889	0.2363	0.0439	0.005	2.21	0.167	8.015	0.01	0.391	38.952	0.047	0	98.971	10.205	29.77	99.993	61.1588	29.371	9.47043	100
Yankee-1 -15	core	0.007	46.296	0.2832	0.0426	0	2.058	0.043	6.399	0	0.275	42.855	0	0.092	98.352	13.977	30.28	99.752	63.0797	23.779	13.1416	100
Yankee-1 -16	core	0.009	48.58	0.4476	0.0542	0.009	2.57	0.202	7.851	0	0.379	39.11	0.106	0.013	99.33	10.072	30.05	100.34	61.8153	28.815	9.36988	100
Yankee-1 -17	core	0	50.389	0.2864	0.0639	0.024	2.502	0.173	10.08	0	0.396	34.948	0.062	0	98.918	8.2541	27.52	99.745	55.8883	36.517	7.59509	100
Yankee-1 -18	core	0	50.121	0.3904	0.0336	0.094	3.26	0	9.904	0.01	0.226	34.944	0.092	0.085	99.162	8.3208	27.46	99.996	56.175	36.137	7.68764	100
Yankee-1 -19	core	0.002	51.386	0.1859	0.0607	0.025	3.094	0	10.44	0	0.377	33.34	0.082	0.003	99	6.6275	27.38	99.664	55.8498	38.018	6.13197	100
Yankee-1 -20	core	0.007	47.435	0.407	0.0142	0	2.264	0.449	7.614	0.06	0.459	40.687	0.066	0.008	99.47	12.274	29.64	100.7	60.8142	27.844	11.3417	100
Yankee-1 -21	core	0	49.893	0.3367	0.0413	0.006	3.24	0.215	9.391	0.03	0.447	35.354	0.098	0	99.052	7.8653	28.28	99.84	58.2035	34.478	7.31836	100
Yankee-1 -22	core	0.002	50.466	0.2007	0.0374	0	3.605	0.105	10.12	0.01	0.393	33.543	0.096	0.074	98.645	7.0508	27.2	99.352	56.1628	37.256	6.58119	100
Yankee-1 -23	core	0.012	51.423	0.1772	0.0323	0	3.085	0.186	10.39	0.02	0.395	33.458	0.106	0	99.289	6.3833	27.71	99.928	56.4102	37.719	5.87117	100
Yankee-1 -24	core	0.038	49.997	0.2884	0.069	0.014	2.348	0.019	8.804	0	0.379	37.356	0.04	0	99.353	8.9747	29.28	100.25	59.6833	32.028	8.28867	100
Yankee-1 -25	core	0	50.134	0.3247	0.0252	0.012	2.551	0.273	9.571	0	0.485	36.261	0.054	0	99.69	8.8667	28.28	100.58	57.3135	34.582	8.105	100
Yankee-1 -26	core	0.012	49.155	0.187	0.0194	0	2.769	0.155	8.692	0.03	0.391	37.585	0.035	0.098	99.123	9.9429	28.64	100.12	58.9069	31.875	9.21834	100
Yankee-1 -27	core	0.01	51.523	0.2483	0	0	2.583	0.367	11.66	0.02	0.384	32.167	0.171	0.005	99.142	7.0493	25.82	99.848	51.8755	41.754	6.37091	100
Yankee-1 -28	core	0.053	50.445	0.2313	0	1E-04	2.407	0.228	8.894	0	0.606	36.699	0.118	0.008	99.689	8.0525	29.45	100.5	60.2015	32.394	7.4049	100
Yankee-1 -29	core	0.011	51.336	0.3029	0.042	0	2.832	0.309	11.55	0	0.417	32.56	0.215	0.029	99.605	7.5369	25.78	100.36	51.7698	41.386	6.8445	100
Yankee-1 -30	core	0	48.964	0.3919	0	0	2.459	0.092	7.818	0	0.432	38.679	0.045	0	98.88	9.4378	30.19	99.825	62.4145	28.806	8.77934	100
Yankee-1 -31	core	0	50.475	0.0991	0.0562	0	2.502	0	9.104	0.03	0.376	36.657	0.094	0.111	99.499	8.8328	28.71	100.38	58.6494	33.185	8.16589	100
Yankee-1 -32	core	0.019	51.865	0.5326	0.078	0	3.34	0.055	10.73	0	0.507	32.316	0.152	0	99.593	5.2431	27.6	100.12	56.1632	38.976	4.8609	100
Yankee-1 -33	core	0.007	47.865	0.2797	0.0729	0.007	2.312	0.152	7.627	0.03	0.458	39.942	0.059	0	98.815	11.621	29.48	99.98	60.9719	28.15	10.8783	100
Yankee-1 -34	core	0.018	51.323	0.2323	0.0246	0.007	3.079	0	11.8	0	0.316	31.78	0.129	0	98.714	7.5768	24.96	99.473	50.4991	42.584	6.91684	100
Yankee-1 -35	core	4E-04	49.747	0.1646	0.0374	0.01	2.309	0.176	8.548	0	0.531	37.411	0.031	0	98.965	8.8839	29.42	99.855	60.4369	31.32	8.2435	100
Yankee-1 -36	core	0.016	45.204	0.3392	0.0815	0.014	2.506	0.393	6.657	0.02	0.279	42.887	0.038	0.105	98.541	14.982	29.41	100.04	61.1742	24.723	14.1033	100
Yankee-1 -37	core	0.015	46.638	0.2771	0.042	0	2.101	0.093	6.751	0.01	0.49	41.758	0.036	0.005	98.221	13.237	29.85	99.547	62.3602	25.157	12.4825	100
Yankee-1 -38	core	0	51.41	0.2069	0.02	0.02	2.823	0.052	10.25	0	0.473	33.804	0.183	0.05	99.287	6.9036	27.59	99.979	56.343	37.298	6.35866	100
Yankee-1 -39	core	0.014	50.014	0.317	0.0703	0	3.213	0.082	9.31	0	0.449	35.936	0.063	0.098	99.567	8.4671	28.32	100.41	58.0584	34.072	7.87005	100
Yankee-1 -40	core	0.011	50.038	0.2368	0.0801	0	2.529	0.252	9.777	0.02	0.437	36.016	0.087	0	99.483	9.1937	27.74	100.4	56.1963	35.357	8.44693	100
Yankee-1 -41	core	0.004	48.924	0.1176	0	0.047	1.945	0.192	7.941	0.01	0.4	39.269	0.04	0	98.887	10.496	29.82	99.939	61.246	29.057	9.69679	100
Yankee-1 -42	core	0	50.144	0.2961	0.0368	0.004	2.978	0	9.639	0.02	0.362	35.915	0.089	0.021	99.5	9.0531	27.77	100.41	56.6145	35.05	8.33547	100
Yankee-1 -43	core	0.014	48.303	0.3266	0	0	2.521	0.139	7.809	0	0.422	39.449	0.115	0	99.099	10.976	29.57	100.2	61.0659	28.737	10.1976	100
Yankee-1 -44	core	0.019	49.959	0.2043	0.0606	0	3.147	2E-04	9.269	0	0.485	35.579	0.052	0.019	98.797	8.277	28.13	99.626	58.0968	34.161	7.7422	100
Yankee-1 -45	core	0	48.398	0.1721	0.0065	0	2.878	0.195	8.363	0	0.358	38.052	0.028	0	98.45	10.363	28.73	99.488	59.4799	30.861	9.65918	100
Yankee-1 -46	core	0.028	52.824	0.1128	0.0233	0.16	2.124	0	10.88	0.02	0.288	33.4	0.117	0	99.978	6.1644	27.85	100.6	55.6728	38.766	5.56157	100
Yankee-1 -47	core	3E-04	50.391	0.1836	0	0	2.598	0.264	10.32	0.01	0.33	35.169	0.08	0.042	99.391	8.9968	27.07	100.29	54.674	37.152	8.17399	100
Yankee-1 -48	core	0.009	51.565	0.2305	0	0.035	3.679	0	10.72	0.01	0.405	33.436	0.118	0	100.21	7.1591	26.99	100.92	54.7417	38.727	6.53167	100
Yankee-1 -49	core	0	49.804	0.1957	0.0458	0	3.114	0.16	9.288	0.09	0.455	35.985	0.068	0.011	99.214	8.7829	28.08	100.09	57.7576	34.076	8.1665	100
Yankee-1 -50	core	0.004	49.605	0.3316	0	0	3.044	0.07	10.43	0.04	0.258	35.292	0.118	0.069	99.266	10.326	26	100.3	52.8112	37.752	9.43646	100
Yankee-1 -51	core	0	48.335	0.2104	0.1174	0.057	1.947	0.215	7.507	0.01	0.42	40.338	0.068	0	99.219	11.232	30.23	100.34	62.0164	27.512	10.4714	100
Yankee-1 -52	core	0.009	51.402	0.1772	0.0271	0	2.973	0.238	10.26	0.04	0.324	34.104	0.17	0	99.73	6.8012	27.98	100.41	56.7025	37.076	6.22174	100
Yankee-1 -53	core	0.007	51.369	0.2625	0.04	0.076	2.988	0.072	9.765	0	0.529	34.866	0.198	0.108	100.28	7.1853	28.4	101	57.8827	35.496	6.62101	100
Yankee-1 -54	core	6E-04	50.942	0.2685	0.0266	0.09	2.465	0	11.62	0.02	0.333	33.259	0.132	0	99.159	9.2743	24.91	100.09	49.9998	41.603	8.39713	100
Yankee-1 -55	core	0	49.099	0.3516	0.0471	0	2.896	0.135	8.571	0	0.399	37.359	0.055	0.077	98.99	9.3148	28.98	99.923	59.7747	31.54	8.68544	100
Yankee-1 -56	core	0	52.231	0.1587	0.051	0	3.437	0.086	11.29	0	0.462	31.697	0.112	0.003	99.529	5.6536	26.61	100.1	53.9525	40.85	5.1973	100
Yankee-1 -57	core	0.015	50.309	0.2204	0	0.027	2.615	0.337	9.251	0.04	0.447	35.635	0.102	0.005	99.007	7.4504	28.93	99.754	59.3235	33.803	6.87318	100
Yankee-1 -58	core	0.008	50.805	0.2195	0.04	0.029	3.925	0.244	10.73	0.03	0.443	32.219	0.194	0.021	98.913	6.3294	26.52	99.548	54.6553	39.444	5.90034	100
Yankee-1 -59	core	0.009	50.334	0.2402	0	0	3.118	0	9.379	0.04	0.487	35.739	0.061	0	99.41	8.3639	28.21	100.25	57.9447	34.327	7.72851	100
Yankee-1 -60	core	0	49.215	0.1869	0.022	0.073	2.54	0.247	8.408	0	0.339	38.244	0.095	0	99.37	9.7776	29.45	100.35	60.285	30.69	9.02515	100
Yankee-1 -61	core	0.005	46.362	0.2278	0.0026	0.01	2.201	0.291	7.06	0.01	0.491	41.622	0.038	0.024	98.347	13.748	29.25	99.725	60.9153	26.202	12.8827	100
Yankee-1 -62	core	0.005	50.384	0.2997	0.0006	0.026	3.244	0	9.485	0.01	0.365	35.343	0.116	0.04	99.321	7.9354	28.2	100.12	57.9407	34.724	7.3351	100
Yankee-1 -63	core	0	49.858	0.2266	0	0	2.451	0.153	8.935	0.01	0.43	36.942	0.13	0.074	99.207	9.0871	28.77	100.12	58.9753	32.643	8.38203	100
Yankee-1 -64	core	0.01	45.948	0.2735	0.0129	0.002	2.44	0.14	6.719	0	0.382	42.365	0.059	0	98.35	14.365	29.44	99.789	61.4809	25.01	13.5089	100
Yankee-1 -65	core	0.011	49.642	0.2825	0.0478	0	3.169	0	9.391	0.03	0.451	35.77	0.085	0	98.876	8.9871	27.68	99.776	57.0787	34.543	8.37807	100
Yankee-1 -66	core	0.009	49.416	0.2835	0.0393	0	3.03	0.29	8.861	0.03	0.4	36.435	0.028	0	98.82	8.2824	28.98	99.649	59.7218	32.567	7.71163	100
Yankee-1 -67	core	0	49.661	0.2473	0.0032	0.09	2.82	0.127	10.89	0.05	0.414	35.083	0.232	0.032	99.653	11.225	24.98	100.78	50.5293	39.253	10.2174	100
Yankee-1 -68	core	0	49.438	0.1709	0.0555	0	2.43	0.144	8.632	0.07	0.305	37.561	0.073	0.032	98.907	9.4813	29.03	99.857	59.5848	31.612	8.80358	100
Yankee-1 -69	core	0.02	50.822	0.229	0.0135	0.051	2.588	0.04	9.28	0.03	0.49	35.894	0.059	0	99.519	7.7613	28.91	100.3	59.0603	33.795	7.14465	100
Yankee-1 -70	core	0	49.507	0.2093	0.02	0.024	2.453	0.064	8.684	0	0.429	37.609	0.106	0.108	99.213	9.8416	28.75	100.2	59.0767	31.808	9.11487	100
Yankee-1 -71	core	0.002	47.843	0.3266	0	0	2.653	0.21	7.608	0	0.392	40.039	0.031	0.061	99.165	11.521	29.67	100.32	61.2894	28.004	10.7063	100
Yankee-1 -72	core	0.015	50.544	0.3122	0.0136	0	2.685	0.074	9.662	0	0.418	35.27	0.091	0	99.085	7.8527	28.2	99.872	57.5988	35.175	7.22643	100
Yankee-1 -73	core	0	51.967	0.2019	0	0.009	3.012	0.164	10.31	0	0.47	33.026	0.112	0.042	99.315	5.3467	28.21	99.851	57.5971	37.492	4.91048	100
Yankee-1 -74	core	0.005	48.737	0.3983	0	0	2.307	0.139	7.92	0.03	0.492	38.745	0.069	0	98.84	9.9734	29.77	99.839	61.546	29.178	9.27613	100
Yankee-1 -75	core	2E-04	50.83	0.212	0.069	0.013	3.531	0.097	10.07	0.01	0.466	33.192	0.139	0.003	98.627	6.2408	27.58	99.253	56.9977	37.143	5.85932	100
Yankee-1 -76	core	0	51.353	0.1886	0.0788	0	3.973	0.216	11.1	0	0.347	32.012	0.12	0.027	99.415	6.1196	26.51	100.03	53.9742	40.356	5.66967	100
Yankee-1 -77	core	0.005	50.591	0.2254	0.0535	0	2.566	0.359	9.304	0	0.419	35.873	0.07	0.032	99.497	7.3637	29.25	100.23	59.4696	33.751	6.77975	100
Yankee-1 -78	core	0	49.998	0.2812	0.0691	0	3.454	0.206	9.658	0.02	0.455	34.95	0.132	0	99.224	7.9372	27.81	100.02	57.1646	35.436	7.39898	100
Yankee-1 -79	core	0.001	47.589	0.2128	0.0103	0.051	2.562	0.408	7.472	0	0.403	40.105	0.005	0	98.819	11.288	29.95	99.95	61.9399	27.547	10.5135	100
Yankee-1 -80	core	0.005	51.47	0.2219	0.0473	0	4.156	0.083	10.92	0	0.585	32.15	0.143	0.011	99.791	6.2861	26.49	100.42	54.2658	39.903	5.8314	100

Yankee-1 Ilmenite

Sample	c/r	SiO_2	TiO_2	Nb_2O_5	Ta_2O_5	Al_2O_3	Cr_2O_3	V_2O_5	MgO	CaO	MnO	FeO^*	NiO	ZnO	Total	Fe_2O_3	FeO	Total	ilmenite	geikelite	hematite	Total
Yankee-1 -81	core	0	50.098	0.291	0.0013	0	3.732	0	9.58	0	0.534	34.806	0.066	0	99.111	7.9098	27.69	99.903	57.3035	35.33	7.36598	100
Yankee-1 -82	core	0.008	48.257	0.1943	0.0174	0	1.976	0	7.493	0	0.413	40.291	0.024	0.016	98.688	11.639	29.82	99.854	61.5825	27.587	10.8304	100
Yankee-1 -83	core	0.028	50.703	0.2354	0.0671	0.006	3.106	0	9.694	0.01	0.496	34.721	0.073	0.093	99.229	7.4846	27.99	99.979	57.4869	35.54	6.9726	100
Yankee-1 -84	core	0.018	49.693	0.2079	0.0129	0.009	2.462	0.314	8.55	0	0.457	37.134	0.09	0	98.949	8.3161	29.65	99.782	60.9631	31.334	7.70316	100
Yankee-1 -85	core	0.012	50.75	0.2377	0.0077	0	2.292	0.086	9.348	0	0.507	35.873	0.033	0	99.147	7.8108	28.84	99.93	58.8384	33.987	7.17455	100
Yankee-1 -86	core	0.018	50.057	0.3012	0.0155	0	3.298	0.096	9.829	0.02	0.614	34.942	0.118	0.021	99.325	8.5676	27.23	100.18	56.0165	36.042	7.9419	100
Yankee-1 -87	core	0	47.854	0.3665	0	0	2.585	0.278	7.924	0.01	0.507	39.196	0.09	0	98.809	11.177	29.14	99.929	60.3449	29.241	10.414	100
Yankee-1 -88	core	0	49.202	0.1956	0.0168	0.047	2.015	0.077	8.097	0.01	0.46	39.096	0.037	0	99.249	10.497	29.65	100.3	60.7423	29.568	9.68963	100
Yankee-1 -89	core	0.008	51.958	0.1736	0.0884	0.09	2.381	0.049	10.4	0.01	0.408	33.866	0.113	0.019	99.562	6.5515	27.97	100.22	56.4738	37.505	6.02165	100
Yankee-1 -90	core	0.019	51.267	0.2231	0.0555	0	4.178	0.22	10.64	0	0.504	32.247	0.158	0.003	99.513	5.691	27.13	100.08	55.7111	38.986	5.30262	100
Yankee-1 -91	core	0.012	48.308	0.1985	0.0155	0.047	2.693	0.237	9.118	0	0.38	37.913	0.04	0.1	99.06	11.802	27.29	100.24	55.854	33.265	10.8808	100
Yankee-1 -92	core	0	51.708	0.2747	0.0278	0.009	2.884	0.159	12.14	0.04	0.198	31.823	0.234	0.008	99.504	7.6414	24.95	100.27	49.8437	43.264	6.89193	100
Yankee-1 -93	core	0.017	49.834	0.1475	0	0.049	2.207	0.162	8.919	0.01	0.377	37.733	0.055	0	99.509	9.8045	28.91	100.49	58.7427	32.295	8.96261	100
Yankee-1 -94	core	0.017	49.156	0.3646	0.0543	0.028	2.921	0.065	9.422	0	0.418	36.678	0.028	0.034	99.185	10.215	27.49	100.21	56.1902	34.366	9.44343	100
Yankee-1 -95	core	0.039	52.339	0.1142	0	0.129	1.988	0.12	10.69	0.04	0.384	33.049	0.147	0.053	99.096	5.8984	27.74	99.687	56.0991	38.534	5.36642	100
Yankee-1 -96	core	0	51.547	0.2801	0.0458	0	4.008	0.11	10.62	0	0.521	32.216	0.113	0.077	99.536	5.5349	27.24	100.09	55.9433	38.905	5.15121	100
Yankee-1 -97	core	0.024	48.865	0.1201	0.0665	0	2.98	0.123	8.107	0.02	0.421	38.375	0.104	0.087	99.295	10.131	29.26	100.31	60.5606	29.946	9.49355	100
Yankee-1 -98	core	0	49.187	0.1649	0.0246	0.02	2.348	0.341	9.114	0.02	0.501	37.516	0.071	0	99.308	10.44	28.12	100.35	57.2986	33.11	9.59129	100

Yankee-1 Olivine

Sample	SiO_2	TiO_2	Al_2O_3	Cr_2O_3	MgO	CaO	MnO	FeO	NiO	Na_2O	K_2O	Total
Yankee-1 -1	40.333	0.0262	0	0	46.864	0.019	0.2029	13.16	0.154	0	0	100.76
Yankee-1 -2	40.097	0.0177	0	0	46.136	0.008	0.2197	13.54	0.072	0.0072	0.024	100.12
Yankee-1 -3	40.902	0	0	0	48.171	0	0.2119	10.98	0.155	0.0058	0	100.43
Yankee-1 -4	40.383	0	0.0479	0.0226	47.196	0	0.1762	12.74	0.191	0.0039	0.022	100.78
Yankee-1 -5	40.879	0.007	0	0.0178	48.094	0	0.2261	10.94	0.232	0.0052	0	100.4
Yankee-1 -6	40.959	0.0264	0	0.0188	48.892	0.026	0.1713	10.08	0.341	0.002	0.002	100.52
Yankee-1 -7	40.941	0.0174	0	0.0254	48.504	0.035	0.1429	10.9	0.178	0.0004	9E-04	100.75
Yankee-1 -8	40.057	0.0168	0	0.022	45.708	0	0.2182	14.27	0.063	0.0091	0	100.37
Yankee-1 -9	40.722	0.0099	0	0	48.087	0.046	0.2559	10.61	0.318	0	0	100.05
Yankee-1 -10	41.234	0.0227	0	0.0164	49.939	0	0.1785	8.748	0.35	0	0.014	100.5
Yankee-1 -11	40.881	0.0155	0	0.0106	48.168	0	0.1556	10.79	0.157	0.0072	0	100.19
Yankee-1 -12	40.615	0.0113	0	0.0267	47.64	0.035	0.2061	11.77	0.235	0	0.003	100.55
Yankee-1 -13	41.601	0	0	0.0288	51.17	0	0.1336	7.162	0.349	0.0029	0.018	100.47
Yankee-1 -14	41.358	0.0118	0.088	0	49.916	0	0.1827	8.981	0.38	0	0	100.92

Zulu-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Zulu-1 -1	dk purple	41.5	0.2106	18.2658	7.2226	19.619	5.903	0.5644	7.341	0	0.06844	0	100.7
Zulu-1 -2	dk purple	41.448	0.3939	19.2883	4.8548	19.792	5.028	0.4064	8.513	0	0.05272	7E-04	99.776
Zulu-1 -3	dk purple	41.633	0.1826	19.6461	4.8185	19.874	5.304	0.4294	8.005	0	0.03417	0.037	99.963
Zulu-1 -4	dk purple	41.497	0.0494	19.0161	6.1679	19.265	6.054	0.4107	7.875	0.031	0.01099	0	100.38
Zulu-1 -5	dk purple	41.77	0.2934	19.8795	4.7354	20.315	4.902	0.402	7.347	0.003	0.05685	0	99.704
Zulu-1 -6	dk purple	41.849	0.2312	20.3843	4.3587	20.493	4.698	0.3948	7.502	0.016	0.05312	0.005	99.984
Zulu-1 -7	dk purple	42.031	0.1928	20.4006	4.2997	20.785	4.411	0.3821	7.604	0.025	0.04506	0.013	100.19
Zulu-1 -8	dk purple	40.996	0.0814	17.6924	7.6794	18.614	6.54	0.3877	7.614	0.048	0.01724	0	99.67
Zulu-1 -9	dk purple	40.953	0.0721	17.4478	7.9984	18.504	6.724	0.3974	7.397	0.048	0.0132	0	99.554
Zulu-1 -10	dk purple	41.536	0.0295	19.7591	4.7858	19.828	5.355	0.3765	7.621	0.013	0.02691	0	99.331
Zulu-1 -11	dk purple	40.848	0.2355	16.4112	8.8618	18.824	6.038	0.3843	7.747	0.062	0.03347	0	99.444
Zulu-1 -12	dk purple	40.57	0.5138	16.0631	9.606	19.073	5.997	0.4413	7.391	0.053	0.07268	0	99.779
Zulu-1 -13	dk purple	41.487	0.0271	19.7821	4.9383	19.981	5.375	0.4212	7.593	0.037	0.01976	0	99.66
Zulu-1 -14	dk purple	40.826	0.1717	16.7103	9.1521	18.31	6.922	0.4627	7.338	0	0.03397	0.021	99.947
Zulu-1 -15	dk purple	41.084	0.0251	17.2542	8.2982	18.283	7.149	0.3876	7.383	0.06	0.01663	0.035	99.975
Zulu-1 -16	dk purple	41.635	0.1935	20.8649	3.576	20.327	4.773	0.3738	8.027	0.023	0.03599	0	99.83
Zulu-1 -17	dk purple	39.126	0.076	21.4219	0.0102	7.9568	7.313	0.4788	23.84	0.045	0.02822	0.028	100.32
Zulu-1 -18	dk purple	41.704	0.266	20.1645	4.1826	20.736	4.827	0.4526	7.471	0.009	0.05564	0	99.867
Zulu-1 -19	dk purple	41.732	0.3283	19.4933	5.2574	20.308	5.196	0.3147	7.265	0	0.04405	0.006	99.944
Zulu-1 -21	dk purple	41.742	0.0448	20.3878	4.5368	19.439	5.043	0.5876	8.777	0.018	0.02197	0.031	100.63
Zulu-1 -22	dk purple	41.766	0.5418	19.0531	5.4369	19.731	5.28	0.4457	8.417	0	0.07227	0	100.74
Zulu-1 -23	dk purple	41.548	0.2626	18.4824	6.9944	20.362	4.725	0.4387	7.251	0	0.06623	0.025	100.15
Zulu-1 -24	dk purple	41.325	0.3864	18.2137	6.7221	19.875	5.297	0.4348	7.562	0.009	0.05201	0.03	99.907
Zulu-1 -25	dk purple	41.451	0.2738	18.7956	6.4598	19.543	5.735	0.4235	7.597	0	0.05131	0	100.33
Zulu-1 -26	dk purple	41.727	0.2337	18.9058	6.4229	19.748	5.693	0.3632	7.665	0.012	0.04949	0	100.82
Zulu-1 -27	dk purple	41.134	0.16	17.3386	8.0724	19.023	6.246	0.4578	7.768	0.044	0.06754	0	100.31
Zulu-1 -28	dk purple	40.881	0.4551	16.2145	9.5172	19.2	6.042	0.4081	7.486	0.021	0.07147	0	100.29
Zulu-1 -29	dk purple	40.696	0.1212	16.6917	8.9912	18.368	6.953	0.4251	7.669	0.026	0.02359	0	99.964
Zulu-1 -30	dk purple	41.049	0.1081	17.8584	7.3526	18.78	6.604	0.3676	7.955	0	0.01956	0.009	100.1
Zulu-1 -31	dk purple	41.372	0.2781	18.7697	6.1048	19.712	5.436	0.4504	7.803	0.062	0.03558	0	100.02
Zulu-1 -32	dk purple	41.354	0.4029	18.1666	6.7078	19.979	5.21	0.3873	7.473	0	0.06774	0	99.749
Zulu-1 -33	dk purple	41.248	0.0904	17.9053	7.4464	19.53	5.835	0.3239	7.536	0.034	0.03115	0	99.98
Zulu-1 -34	dk purple	41.564	0.2337	19.6827	4.8074	20.279	4.904	0.3629	7.556	0	0.05433	0	99.443
Zulu-1 -35	dk purple	41.973	0.2306	20.1878	4.3533	20.679	4.566	0.363	7.647	0.006	0.0499	0	100.05
Zulu-1 -36	dk purple	40.038	0.4448	14.1195	11.5811	17.64	6.982	0.5049	7.773	0	0.06764	0.039	99.189
Zulu-1 -37	dk purple	42.153	0.2424	20.8268	3.6259	20.699	4.728	0.3424	7.476	0	0.05211	0	100.14
Zulu-1 -38	dk purple	41.538	0.4497	18.2639	6.2567	19.675	5.319	0.3971	8.036	0	0.06713	0	100
Zulu-1 -39	dk purple	41.748	0.2391	19.1445	5.7453	20.267	5.056	0.4563	7.902	0.043	0.04526	0.005	100.65
Zulu-1 -40	dk purple	41.437	0.3144	19.3363	5.0054	19.7	4.934	0.4691	8.472	0.018	0.03639	0	99.722
Zulu-1 -41	dk purple	41.161	0.0802	20.5036	3.8166	18.307	4.951	0.6449	10.53	0.002	0.04234	0.015	100.05
Zulu-1 -42	dk purple	41.06	0.2332	16.781	8.6299	19.142	5.92	0.3654	7.623	0.015	0.02923	0	99.797
Zulu-1 -44	dk purple	41.589	0.3928	18.7398	5.9296	20.349	5.191	0.3654	7.256	0.01	0.04012	0	99.862
Zulu-1 -45	dk purple	41.176	0.1344	18.3345	6.5867	18.984	6.099	0.4321	7.796	0.04	0.04486	0.06	99.686
Zulu-1 -46	dk purple	41.522	0.2336	19.1599	5.53	19.632	5.312	0.4592	8.07	0	0.05594	0	99.974
Zulu-1 -47	dk purple	41.4	0.2993	18.6558	6.2254	19.285	5.367	0.3829	8.451	0.019	0.051	0	100.14
Zulu-1 -48	dk purple	41.649	0.249	18.827	6.325	19.66	5.761	0.4099	7.723	0	0.05504	0	100.66
Zulu-1 -49	dk purple	41.908	0.3002	19.8486	4.6962	20.212	4.921	0.3742	8.08	0	0.04254	0.017	100.4
Zulu-1 -50	dk purple	41.757	0.2577	19.4533	5.119	20.381	4.956	0.4293	7.296	0.016	0.0498	0.017	99.733
Zulu-1 -51	purple	41.223	0.0014	18.7067	6.4531	19.097	6.32	0.4031	7.448	0.04	0	0	99.692
Zulu-1 -52	purple	42.781	0.1852	21.9199	2.168	21.266	4.479	0.3881	7.906	0.013	0.03961	0	101.14
Zulu-1 -53	purple	42.141	0.2071	21.6191	2.6264	20.838	4.616	0.4288	7.798	0.015	0.03861	0.027	100.36
Zulu-1 -54	purple	41.823	0.31	18.9325	5.7363	19.939	5.097	0.4512	7.643	0.04	0.07237	0	100.04
Zulu-1 -55	purple	41.321	0.0258	22.6361	1.0109	17.993	4.797	0.3529	11.61	0	0.01452	0	99.764
Zulu-1 -56	purple	42.207	0.3018	20.6561	3.5697	21.113	4.539	0.3652	7.506	0.013	0.04365	0	100.31
Zulu-1 -57	purple	41.673	0.0642	19.729	4.8492	19.944	5.451	0.4068	7.84	0	0.00917	0.042	100.01
Zulu-1 -58	purple	41.659	0.2848	20.3221	3.9169	20.582	4.769	0.3708	7.228	0.062	0.0505	0	99.244
Zulu-1 -59	purple	41.874	0.2689	20.1961	4.3012	20.345	4.745	0.369	7.596	0.012	0.04899	0	99.755
Zulu-1 -60	purple	41.665	0.0028	20.8078	4.0237	20.363	4.486	0.5729	8.177	0	0.02177	0.032	100.15
Zulu-1 -61	purple	42.109	0.2166	20.7172	3.3701	20.282	4.886	0.3931	8.188	0.013	0.02863	0.005	100.21

Zulu-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Zulu-1 -62	purple	42.105	0.2464	21.6163	2.4864	20.903	4.041	0.4273	8.167	0.075	0.04425	0	100.11
Zulu-1 -63	purple	41.637	0.0061	18.8321	6.3233	19.234	6.213	0.3896	7.451	0	0.00806	0	100.09
Zulu-1 -64	purple	41.649	0.0305	20.9239	4.0025	20.079	4.608	0.5491	8.021	0	0.01119	0.008	99.881
Zulu-1 -65	purple	42.442	0.0146	23.4725	0.4797	20.261	4.683	0.4281	8.544	0	0.00655	0	100.33
Zulu-1 -66	purple	41.681	0.2502	19.3588	5.5071	20.402	4.939	0.4084	7.148	0.001	0.05252	0	99.749
Zulu-1 -67	purple	42.341	0.298	21.4735	2.4673	21.045	4.337	0.4091	8.103	0.066	0.03659	8E-04	100.58
Zulu-1 -68	purple	42.149	0.2541	20.6079	3.5299	20.792	4.391	0.3172	8.02	0.031	0.05756	0	100.15
Zulu-1 -69	purple	41.594	0.2881	20.4655	3.7344	20.415	4.408	0.489	8.235	0.009	0.04919	0.013	99.7
Zulu-1 -70	purple	41.837	0.2972	20.5751	3.6585	19.727	4.764	0.5236	9.065	0.018	0.04697	0.019	100.53
Zulu-1 -71	purple	41.467	0.2479	19.2452	5.7265	20.187	4.878	0.4164	7.987	0.007	0.04163	0.009	100.21
Zulu-1 -72	purple	41.355	0.2512	19.0873	5.819	20.189	4.92	0.4389	7.836	0	0.04516	0.022	99.963
Zulu-1 -73	purple	41.721	0.2327	20.1814	4.5634	20.517	4.58	0.3918	7.853	0	0.05141	0.025	100.12
Zulu-1 -74	purple	41.622	0.015	20.9427	3.6916	20.253	4.516	0.5908	8.035	0.01	0.01371	0.016	99.705
Zulu-1 -75	purple	42.033	0.0207	21.2653	3.5309	20.233	4.52	0.4977	8.246	0	0.03568	0	100.38
Zulu-1 -76	purple	41.916	0.1889	21.0882	3.0354	20.803	4.753	0.3827	7.871	0.006	0.02187	0.019	100.09
Zulu-1 -77	purple	41.623	0.2635	19.5408	5.3593	20.215	4.94	0.3986	7.576	0	0.03992	0	99.955
Zulu-1 -78	purple	41.885	0	21.0408	3.9082	20.252	4.689	0.5342	8.054	0	0.00806	0	100.37
Zulu-1 -79	purple	41.531	0.2092	19.4155	5.4714	19.817	5.141	0.5051	8.288	0.012	0.05494	0	100.44
Zulu-1 -80	purple	41.755	0.1984	20.0683	5.0589	20.793	4.287	0.4383	7.405	0	0.05242	0.001	100.06
Zulu-1 -81	purple	41.301	0.3747	18.6061	5.981	19.537	5.131	0.3838	8.503	0.034	0.03437	0	99.886
Zulu-1 -82	purple	41.675	0.0188	21.0174	3.9706	20.243	4.552	0.602	8.084	0	0.01331	0	100.18
Zulu-1 -83	purple	42.327	0.1186	21.2457	3.6085	20.717	4.612	0.3628	7.617	0	0.03901	0	100.65
Zulu-1 -84	purple	41.926	0.1555	20.1432	4.4311	20.324	4.958	0.3935	7.698	0	0.05373	0	100.08
Zulu-1 -85	purple	41.209	0.0122	21.244	3.0514	17.901	5.421	0.8364	10.57	0	0.01421	0.034	100.29
Zulu-1 -86	purple	41.702	0.0033	20.7661	4.077	20.201	4.623	0.5356	8.256	0	0.01673	0.006	100.19
Zulu-1 -87	purple	41.905	0.2385	20.7706	3.3113	20.205	4.724	0.412	8.106	0.034	0.02994	0	99.736
Zulu-1 -88	purple	41.772	0.2045	20.144	4.9482	20.768	4.295	0.4018	7.48	0	0.06088	0	100.07
Zulu-1 -89	purple	41.813	0.0146	20.6013	4.1383	20.223	4.572	0.4964	7.901	0	0.02933	0	99.788
Zulu-1 -90	purple	41.768	0.3146	20.5103	3.3941	20.497	4.709	0.4244	8.136	0	0.03286	0	99.786
Zulu-1 -91	purple	41.913	0.2676	21.0071	3.31	20.277	4.816	0.3739	8.297	0.007	0.0378	0	100.31
Zulu-1 -92	purple	41.787	0.247	20.7607	3.7763	20.572	4.835	0.3374	7.541	0.018	0.0634	0	99.937
Zulu-1 -93	purple	41.87	0.1604	20.9112	3.5974	20.322	4.814	0.3895	7.995	0	0.02782	0	100.09
Zulu-1 -94	purple	41.925	0.2173	20.1083	4.3781	20.41	4.586	0.4357	7.929	0.007	0.05544	0	100.05
Zulu-1 -95	purple	42.36	0.1768	22.1862	1.5428	21.062	4.246	0.3707	7.71	0	0.03336	0.021	99.708
Zulu-1 -96	purple	41.629	0.1086	20.7322	3.687	20.307	4.605	0.4429	8.28	0.012	0.03165	0	99.834
Zulu-1 -97	purple	41.899	0.1412	19.594	5.2298	20.331	4.733	0.4045	7.542	0.022	0.03528	0.014	99.945
Zulu-1 -98	purple	41.936	0.2568	20.1804	4.2851	20.312	4.821	0.3726	7.263	0.046	0.06048	0.021	99.554
Zulu-1 -99	purple	41.944	0.2707	20.6292	3.8811	20.642	4.803	0.3671	7.538	0.028	0.04123	0	100.14
Zulu-1 -100	purple	41.897	0	21.3317	3.423	20.323	4.431	0.5731	7.953	0.004	0.01905	6E-04	99.955
Zulu-1 -101	purple	41.773	0.1947	19.8784	5.0301	20.761	4.325	0.4737	7.399	0.04	0.05766	0.004	99.935
Zulu-1 -102	purple	41.824	0.2944	20.2495	4.3873	20.49	4.776	0.4433	7.46	0.019	0.05947	0	100
Zulu-1 -103	purple	42.129	0.2067	21.5305	2.5994	20.835	4.586	0.3606	7.972	0	0.02228	0.007	100.25
Zulu-1 -104	purple	41.459	0.0968	19.5045	5.0745	19.999	5.253	0.4105	7.662	0	0.03588	0	99.495
Zulu-1 -105	purple	42.067	0.3283	21.0737	3.0052	20.739	4.49	0.3574	8.19	0.001	0.03538	0.003	100.29
Zulu-1 -106	purple	41.664	0.0131	20.4921	4.6064	20.227	4.758	0.5147	8.152	0	0.02409	0	100.45
Zulu-1 -107	purple	41.916	0.28	21.1687	3.0172	20.313	4.565	0.3986	7.914	0.033	0.04748	0.003	99.655
Zulu-1 -108	purple	42.049	0.2906	20.1195	4.4785	20.585	4.818	0.3783	7.527	0.031	0.05494	0	100.33
Zulu-1 -109	purple	41.661	0.3105	19.5865	4.5729	19.862	5.209	0.4359	8.05	0	0.05262	0.022	99.761
Zulu-1 -110	purple	41.679	0.0399	20.6552	4.2278	19.918	5.033	0.522	8.144	0.015	0.02278	0.006	100.26
Zulu-1 -111	purple	41.944	0.0132	20.9567	3.681	20.269	4.542	0.5533	8.175	0.01	0.02208	0	100.17
Zulu-1 -112	purple	41.9	0	20.9891	3.8898	20.301	4.564	0.5266	7.976	0	0.01976	0	100.17
Zulu-1 -113	purple	41.85	0.2024	20.3562	4.3923	20.378	4.978	0.3375	7.485	0	0.04596	0.016	100.04
Zulu-1 -114	purple	42.346	0.2813	21.5368	2.5768	21.185	4.513	0.3805	7.797	0.022	0.05121	0	100.69
Zulu-1 -115	purple	41.693	0.0278	21.6555	3.0855	19.505	5.107	0.6635	8.448	0	0.01502	0	100.2
Zulu-1 -116	purple	42.202	0.2171	21.5644	2.7532	20.86	4.733	0.3606	7.855	0.002	0.02843	0.012	100.59
Zulu-1 -117	purple	41.871	0.1849	20.3867	4.2592	20.858	4.405	0.411	7.476	0.007	0.05413	0	99.911
Zulu-1 -118	purple	42.04	0.2516	20.866	3.5674	20.712	4.508	0.3815	7.627	0	0.04445	0	99.996
Zulu-1 -119	purple	42.028	0.2099	19.9044	4.9672	20.835	4.327	0.4148	7.65	0	0.05766	0	100.39
Zulu-1 -120	purple	41.616	0.2572	19.3395	5.7501	20.305	4.913	0.4277	7.713	0	0.04617	0	100.37

Zulu-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Zulu-1 -121	purple	41.988	0.0147	21.2041	3.4493	20.431	4.358	0.5876	7.997	0.021	0.01623	0.019	100.08
Zulu-1 -122	purple	41.349	0.2505	19.1638	5.9347	20.259	4.943	0.456	7.719	0	0.04667	0	100.12
Zulu-1 -123	purple	42.075	0.2548	20.8635	3.2881	20.611	4.726	0.4111	8.242	0	0.03488	0	100.51
Zulu-1 -124	red	42.011	0.266	20.5619	3.9903	20.71	4.795	0.3857	7.54	0.01	0.03941	0	100.31
Zulu-1 -125	red	41.996	0.1968	21.3927	2.7093	20.711	4.673	0.3452	7.882	0.025	0.0248	0	99.956
Zulu-1 -126	red	41.839	0.2347	20.4146	4.0226	20.225	4.836	0.4434	8.032	0	0.04445	0	100.09
Zulu-1 -127	red	41.981	0.2546	21.0434	3.3961	20.424	4.446	0.3404	8.386	0.01	0.05111	0.033	100.36
Zulu-1 -128	red	42.084	0.2494	21.1701	3.0082	21.115	4.307	0.3592	7.767	0.037	0.05736	0	100.15
Zulu-1 -129	red	41.797	0.2399	20.6155	3.5734	20.609	4.706	0.3761	7.634	0	0.05292	0.028	99.631
Zulu-1 -130	red	42.103	0.1756	21.5379	2.5197	20.677	4.517	0.3707	7.929	0	0.03135	0.021	99.882
Zulu-1 -131	red	41.773	0.1757	20.9776	3.5906	20.407	4.753	0.4422	7.868	0.006	0.03568	0	100.03
Zulu-1 -132	red	41.843	0.3476	20.1624	4.0792	20.608	4.869	0.3618	7.568	0.024	0.04344	0.045	99.952
Zulu-1 -133	red	41.756	0.1615	19.6914	5.2207	20.149	4.995	0.3767	7.603	0.034	0.02409	0	100.01
Zulu-1 -134	red	41.728	0.283	19.5582	5.0999	20.48	5.17	0.3797	7.272	0.019	0.04818	0	100.04
Zulu-1 -135	red	42.175	0.3328	20.1845	4.228	20.644	4.905	0.3164	7.785	0.009	0.0505	0.026	100.65
Zulu-1 -136	red	41.858	0.2332	19.7556	5.0473	20.524	5.028	0.3926	7.454	0.019	0.04133	0	100.35
Zulu-1 -137	red	41.927	0.3644	21.2476	2.9318	20.548	4.356	0.4383	8.183	0	0.06078	0	100.06
Zulu-1 -138	red	41.631	0.0991	19.897	4.9592	19.877	5.157	0.3726	8.001	0	0.03397	0	100.03
Zulu-1 -139	red	41.331	0.311	19.3784	4.9857	19.709	4.93	0.4287	8.526	0.029	0.04838	0	99.678
Zulu-1 -140	red	41.827	0.2788	20.2153	4.3076	20.393	4.811	0.3916	7.481	0	0.05564	0	99.76
Zulu-1 -141	red	41.857	0.145	20.4584	4.1178	20.213	5.13	0.3786	7.973	0.004	0.02943	0	100.31
Zulu-1 -142	red	42.485	0.2115	21.8916	2.103	20.997	4.529	0.3244	7.882	0.033	0.03558	0.012	100.5
Zulu-1 -143	red	42.113	0.2677	20.4781	3.9346	20.677	4.761	0.4059	7.701	0	0.05151	0	100.39
Zulu-1 -144	red	41.934	0.0875	19.6637	5.2246	19.869	5.305	0.3699	7.643	0.028	0.02933	0	100.15
Zulu-1 -145	red	41.588	0.2783	20.9077	3.1023	20.499	4.656	0.3918	8.056	0.043	0.04455	0	99.566
Zulu-1 -146	red	41.885	0.1909	20.8338	3.5881	20.346	4.717	0.372	7.846	0.04	0.04113	0.004	99.864
Zulu-1 -147	red	41.523	0.3526	19.7091	4.5551	19.978	5.045	0.3671	8.204	0.019	0.04788	0	99.801
Zulu-1 -148	red	41.637	0.2335	20.478	4.0287	20.292	4.842	0.4	8.056	0	0.03336	0.01	100.01
Zulu-1 -149	red	39.085	0.1041	21.798	0.0326	8.7478	8.159	0.5332	21.71	0.041	0.01804	0.011	100.24
Zulu-1 -150	red	41.686	0.2787	20.2246	3.9319	20.676	4.692	0.3763	7.531	0	0.04869	0.003	99.447
Zulu-1 -151	red	38.668	0.0583	21.3253	0.0491	7.954	6.387	0.5861	25.06	0.026	0.0383	0	100.15
Zulu-1 -152	red	42.442	0.2282	21.2257	2.985	21.21	4.495	0.3653	7.728	0.013	0.06451	0	100.76
Zulu-1 -153	red	41.799	0.1849	20.8181	3.4579	20.374	4.807	0.43	7.815	0	0.04465	0	99.73
Zulu-1 -154	red	41.686	0.2185	19.9037	4.5738	20.418	4.917	0.3252	7.471	0	0.05988	0	99.573
Zulu-1 -155	red	41.618	0.2306	20.6239	3.9461	20.066	4.673	0.4041	8.372	0.043	0.04203	0	100.02
Zulu-1 -156	red	41.758	0.241	20.2626	4.3243	20.572	4.648	0.434	7.635	0.03	0.05836	0.013	99.977
Zulu-1 -157	red	42.033	0.1865	21.0783	3.2406	20.536	4.84	0.3679	7.843	0	0.0251	0.016	100.17
Zulu-1 -158	red	41.822	0.2527	20.5338	4.0536	20.42	4.581	0.4451	8.212	0.001	0.05615	0.037	100.41
Zulu-1 -159	red	41.437	0.3652	19.8195	4.3665	20.066	5.047	0.4041	8.019	0	0.03316	0	99.558
Zulu-1 -160	red	41.927	0.2173	21.304	2.9505	20.604	4.67	0.3427	7.686	0.024	0.03185	0.023	99.778
Zulu-1 -161	red	42.05	0.2754	20.5386	3.6922	20.778	4.762	0.3424	7.851	0	0.05151	0	100.34
Zulu-1 -162	red	41.48	0.3099	18.9207	6.0978	20.128	5.166	0.401	7.364	0	0.06381	0	99.93
Zulu-1 -163	red	42.154	0.291	21.3089	3.0814	21.169	4.377	0.354	7.586	0	0.05897	0.032	100.41
Zulu-1 -164	red	41.706	0.104	20.5443	4.2043	19.708	4.861	0.52	8.126	0.006	0.02661	0	99.805
Zulu-1 -165	red	42.126	0.2964	22.0578	1.5534	20.311	4.241	0.3456	9.023	0	0.06028	0.002	100.02
Zulu-1 -166	red	41.603	0.3405	19.103	5.9354	19.974	4.999	0.4104	8.008	0	0.06502	0	100.44
Zulu-1 -167	red	41.847	0.3079	20.9166	2.9619	20.695	4.392	0.4228	8.45	0.041	0.0501	0.005	100.09
Zulu-1 -168	red	41.714	0.2933	20.2495	4.4574	20.719	4.928	0.4359	7.24	0	0.04808	0.02	100.1
Zulu-1 -169	red	42.173	0.2538	20.5013	3.8009	20.664	4.749	0.4146	7.557	0.01	0.05725	0	100.18
Zulu-1 -170	red	41.725	0.294	21.0495	3.3721	20.575	4.587	0.4284	8.565	0	0.04879	0	100.64
Zulu-1 -171	red	42.134	0.2535	20.7463	3.7492	20.669	4.696	0.3696	7.597	0	0.0625	0	100.28
Zulu-1 -172	red	41.963	0.2542	20.6563	3.9286	20.256	4.788	0.3623	7.91	0	0.05463	0.013	100.19
Zulu-1 -173	red	41.66	0.2474	20.4605	3.8408	20.66	4.833	0.3965	7.408	0.016	0.05443	0	99.576
Zulu-1 -174	red	42.048	0.1675	21.0405	3.5913	20.365	4.826	0.4416	8.029	0	0.03226	0.013	100.55
Zulu-1 -175	red	41.857	0.2779	20.6534	3.648	20.47	4.649	0.3609	7.999	0	0.04254	0	99.958
Zulu-1 -176	red	41.858	0.3887	20.3976	4.0141	20.352	4.656	0.3805	8.343	0	0.06169	0.022	100.47
Zulu-1 -177	red	41.565	0.3334	19.2465	5.2772	20.36	5.099	0.3466	7.249	0.015	0.05342	0	99.545
Zulu-1 -178	red	41.875	0.2302	21.2675	3.0384	20.519	4.625	0.3387	7.742	0	0.04163	0.005	99.682
Zulu-1 -179	red	41.888	0.3302	20.1239	4.0822	20.608	4.968	0.3383	7.764	0.019	0.03961	0.011	100.17

Zulu-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Zulu-1 -180	red	42.11	0.2909	21.5543	2.6946	21.109	4.302	0.3583	7.475	0.048	0.05393	0	99.995
Zulu-1 -181	red	41.725	0.265	20.1668	4.2956	20.358	4.76	0.3639	7.615	0.021	0.04465	0	99.615
Zulu-1 -182	red	41.853	0.2352	20.2252	4.1287	20.259	4.747	0.3976	8.132	0	0.04244	0.015	100.03
Zulu-1 -183	red	41.7	0.2684	19.3551	5.5252	20.275	4.803	0.4663	7.789	0	0.04899	0.004	100.24
Zulu-1 -184	red	42.08	0.1841	20.8767	3.4913	20.549	4.715	0.3625	8.062	0	0.02409	0	100.34
Zulu-1 -185	red	42.154	0.2856	21.1422	3.0961	21.089	4.439	0.3629	7.592	0	0.05967	0.012	100.23
Zulu-1 -186	red	41.909	0.2531	20.5752	3.7833	20.67	4.877	0.3202	7.562	0.015	0.04677	0	100.01
Zulu-1 -187	red	42.147	0.2894	21.3559	2.5092	20.901	4.328	0.3473	8.151	0.003	0.0379	0	100.07
Zulu-1 -188	red	42.166	0.2621	20.5907	4.0096	20.719	4.702	0.3484	7.415	0.016	0.03679	0.002	100.27
Zulu-1 -189	red	41.642	0.1266	19.7134	5.1532	19.995	5.203	0.4735	7.827	0.027	0.03931	0.018	100.22
Zulu-1 -190	red	41.886	0.2616	20.2039	4.51	20.386	4.792	0.3765	7.573	0.03	0.04385	0	100.06
Zulu-1 -191	red	42.134	0.219	20.4479	4.4468	20.442	4.604	0.3592	8.296	0.016	0.04062	0	101.01
Zulu-1 -192	red	42.171	0.2155	21.3752	3.1291	20.51	4.703	0.3768	7.92	0.047	0.01804	0.029	100.5
Zulu-1 -193	red	41.483	0.258	19.2852	5.4647	19.835	5.222	0.4195	8.18	0.019	0.04244	0	100.21
Zulu-1 -194	red	42.112	0.226	21.2266	2.9253	20.648	4.643	0.4025	7.876	0.025	0.02177	0	100.11
Zulu-1 -195	red	41.777	0.2463	20.3041	4.246	20.399	4.683	0.4249	7.485	0	0.04405	0.003	99.612
Zulu-1 -196	red	42.005	0.2746	20.136	4.4737	20.693	4.902	0.3399	7.442	0	0.0502	0	100.32
Zulu-1 -197	red	41.131	0.2264	18.7109	6.4499	19.669	5.751	0.394	7.549	0	0.04828	0.034	99.962
Zulu-1 -198	red	42.264	0.3003	20.5748	3.9208	20.792	4.716	0.3486	7.718	0	0.03639	0	100.67
Zulu-1 -201	orange	40.368	0.0553	22.1461	0.0643	12.605	4.949	0.5207	19.36	0.006	0.02167	0	100.1
Zulu-1 -204	orange	42.477	0.5539	22.3359	0.7272	21.533	3.974	0.3184	7.975	0.009	0.06935	0.011	99.983
Zulu-1 -209	orange	42.06	0.1907	22.0855	1.6938	20.137	4.447	0.4027	8.89	0.05	0.03659	0	99.993
Zulu-1 -210	orange	39.277	0.1305	21.7865	0.0328	9.1899	5.479	0.3788	24.41	0	0.00474	0.01	100.7
Zulu-1 -211	orange	40.482	0.089	22.0472	0.1482	13.656	4.671	0.4941	18.75	0.019	0.01502	0.001	100.38
Zulu-1 -212	orange	42.075	0.3602	21.9213	1.6535	20.241	4.322	0.3465	9.245	0.022	0.05877	0	100.24
Zulu-1 -214	orange	42.086	0.169	22.1452	1.6403	20.327	4.467	0.4127	8.913	0	0.02883	0	100.19
Zulu-1 -215	orange	42.054	0.3006	21.96	1.7981	20.266	4.427	0.4199	8.764	0.034	0.05776	0.03	100.11
Zulu-1 -217	orange	42.014	0.3046	21.4401	2.3885	20.358	4.664	0.3672	8.646	0	0.03679	0	100.22
Zulu-1 -218	orange	42.406	0.1879	22.4161	1.6163	21.054	4.373	0.3977	7.82	0.01	0.04254	0.03	100.35
Zulu-1 -219	orange	42.267	0.3224	21.5504	2.6236	21.232	4.11	0.4059	7.685	0	0.05715	0.022	100.27
Zulu-1 -220	orange	42.251	0.1895	23.0862	0.6621	19.395	6.502	0.1918	8.293	0.043	0.04637	0	100.66
Zulu-1 -221	orange	42.16	0.377	22.0957	1.6814	20.399	4.266	0.3757	9.352	0.01	0.05927	0	100.78
Zulu-1 -222	orange	41.047	0.111	21.6901	2.1072	15.298	8.736	0.6752	11.16	0	0.02087	0.012	100.85
Zulu-1 -223	orange	42.242	0.1706	22.8948	0.6668	19.354	6.501	0.2005	8.037	0.033	0.03851	5E-04	100.14
Zulu-1 -226	orange	41.964	0.2064	22.2328	1.3706	20.204	4.454	0.356	9.282	0	0.04203	0	100.11
Zulu-1 -228	orange	40.566	0.0633	22.3067	0.1732	13.657	4.728	0.4726	18.56	0	0.01885	0	100.54
Zulu-1 -229	orange	42.255	0.3582	21.7574	2.086	21.342	4.112	0.3564	8.136	0.006	0.05655	0.018	100.48
Zulu-1 -230	orange	42.196	0.303	22.0008	1.617	20.177	4.344	0.3873	9.143	0	0.06824	0.013	100.25
Zulu-1 -233	orange	42.058	0.3149	21.2828	2.7069	20.984	4.29	0.4017	7.738	0.013	0.06018	0.01	99.859
Zulu-1 -234	orange	42.036	0.2377	22.1429	1.8668	21.182	4.141	0.402	7.659	0.015	0.05181	0.008	99.742
Zulu-1 -235	orange	42.268	0.3977	21.6025	2.4869	20.282	4.534	0.3417	8.82	0	0.06602	0	100.8
Zulu-1 -236	orange	42.245	0.1947	22.3547	1.457	20.113	4.511	0.3533	9.132	0.009	0.02409	0.02	100.41
Zulu-1 -237	orange	42.046	0.1758	22.999	0.7494	19.337	6.45	0.2006	8.053	0.015	0.05252	0.023	100.1
Zulu-1 -238	orange	42.263	0.2099	22.232	1.5206	20.124	4.496	0.3675	8.998	0.05	0.03407	0.021	100.32
Zulu-1 -239	orange	42.027	0.1938	22.2376	1.4613	20.15	4.504	0.3788	8.946	0.033	0.02197	0.01	99.963
Zulu-1 -240	orange	41.801	0.3411	22.0295	1.775	20.15	4.244	0.3422	9.279	0	0.05846	0	100.02
Zulu-1 -242	orange	42.012	0.2745	22.0778	1.58	20.156	4.36	0.3829	9.236	0.012	0.05846	0.007	100.16
Zulu-1 -243	orange	41.823	0.3405	21.9863	1.738	20.19	4.365	0.3588	9.415	0.001	0.05504	0	100.27
Zulu-1 -245	orange	42.25	0.1577	22.0884	1.8587	20.196	4.526	0.4101	8.803	0	0.01351	0.036	100.34
Zulu-1 -246	orange	42.268	0.189	22.2921	1.6432	21.089	4.403	0.3597	7.665	0	0.02913	0	99.937
Zulu-1 -248	orange	42.006	0.1649	22.1277	1.5998	20.225	4.339	0.4472	8.895	0.011	0.03034	0	99.844
Zulu-1 -249	purple	41.642	0.158	20.947	3.4498	20.456	4.783	0.3802	7.91	0	0.04042	0.014	99.781
Zulu-1 -250	purple	41.85	0.3476	19.6553	4.6348	20.134	5.132	0.3427	8.163	0	0.04859	0	100.31
Zulu-1 -251	purple	41.922	0.1872	19.566	5.0292	20.054	4.984	0.4107	7.906	0	0.02379	0	100.08
Zulu-1 -252	purple	41.946	0.3322	20.036	4.4504	20.113	5.084	0.3768	8.206	0	0.04576	0.012	100.6
Zulu-1 -253	purple	41.815	0.2799	19.8774	4.6689	20.492	4.714	0.4295	7.557	0	0.06048	0	99.895
Zulu-1 -254	purple	41.579	0.191	19.5534	5.3189	20.251	5.031	0.3768	7.593	0	0.0372	0.012	99.943
Zulu-1 -255	purple	40.748	0.1154	17.4724	8.011	18.527	6.526	0.4294	7.55	0	0.01935	0	99.397
Zulu-1 -256	purple	41.357	0.2718	18.6623	6.1505	19.635	5.366	0.4582	7.744	0.065	0.05262	0	99.761

Zulu-1 Garnet

Sample	Colour	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Zulu-1 -257	purple	41.609	0.2529	19.8024	4.8186	20.291	4.872	0.4365	7.756	0.021	0.06602	0	99.925
Zulu-1 -258	purple	41.765	0.1875	20.2807	4.3701	20.329	4.889	0.4127	7.736	0.013	0.07096	0.016	100.07
Zulu-1 -259	purple	42.031	0.2906	21.1244	3.6955	20.912	4.407	0.458	7.921	0.027	0.03931	0	100.91
Zulu-1 -260	purple	41.198	0.2532	19.0389	5.7774	19.993	4.935	0.4331	7.704	0.015	0.05645	0	99.403
Zulu-1 -261	purple	41.606	0.3083	20.0513	4.1111	20.477	4.747	0.4494	7.997	0.012	0.04153	0.002	99.801
Zulu-1 -262	purple	41.525	0.2209	19.3338	5.6891	20.245	4.825	0.405	7.556	0.036	0.0499	0.017	99.901
Zulu-1 -263	purple	42.081	0.2617	20.6619	3.7751	20.755	4.814	0.3776	7.505	0	0.04889	0	100.28
Zulu-1 -264	purple	42.062	0.2345	21.1116	3.3745	20.449	4.755	0.3986	8.346	0.03	0.03548	0.021	100.82
Zulu-1 -265	purple	42.057	0.2203	20.6017	3.9269	20.561	4.769	0.3887	7.985	0	0.05262	0	100.56
Zulu-1 -266	purple	42.052	0.2052	21.4329	2.8826	20.775	4.647	0.3253	7.821	0.037	0.03689	0.004	100.22
Zulu-1 -267	purple	41.077	0.1949	17.4533	8.1306	18.852	6.069	0.5039	7.802	0	0.04123	0	100.12
Zulu-1 -268	purple	41.764	0.2802	20.9562	3.0951	20.392	4.676	0.3677	8.256	0.002	0.04929	0.004	99.841
Zulu-1 -269	purple	41.891	0.2692	20.6473	3.8074	20.444	4.939	0.4143	7.846	0	0.04506	0	100.3
Zulu-1 -270	purple	41.785	0.217	19.3926	5.3598	20.3	5.231	0.3429	7.747	0.015	0.0377	0.027	100.45
Zulu-1 -271	purple	41.729	0.1624	19.9752	4.9347	21.063	4.383	0.4439	7.356	0.053	0.06129	0	100.16
Zulu-1 -272	purple	41.645	0.2723	19.2271	5.4286	20.262	4.832	0.4986	7.75	0.003	0.05443	0	99.972
Zulu-1 -273	purple	41.544	0.0165	19.9583	5.142	19.97	5.052	0.6034	7.92	0	0.03306	0.022	100.26

Zulu-1 Chromite

Sample	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total
Zulu-1 -1	0.049	0.557	0.019	0	4.49	57.555	0.3793	9.2445	0.039	0.4715	25.722	0.084	0.087	98.698	7.6387	18.85	99.463
Zulu-1 -2	0.006	0	0.0077	0	10.64	55.376	0.3415	10.346	0.039	0.233	21.64	0.116	0.056	98.804	4.3544	17.72	99.24
Zulu-1 -3	0.017	0.001	0	0.0707	11.35	54.549	0.4787	10.851	0.056	0.2819	21.931	0.082	0.181	99.849	4.9154	17.51	100.34
Zulu-1 -4	0.031	0.373	0.0266	0	5.075	58.065	0.3792	8.7898	0.067	0.3996	25.948	0.109	0.142	99.407	7.0149	19.64	100.11
Zulu-1 -5	0.058	2.296	0	0.0543	2.093	53.8	0.314	8.1376	0.033	0.315	31.279	0.114	0.147	98.641	10.581	21.76	99.701
Zulu-1 -6	0.004	0.074	0.0255	0	7.396	58.715	0.2618	10.503	0.041	0.2538	22.018	0.122	0.294	99.709	5.588	16.99	100.27
Zulu-1 -7	0.039	0.398	0.0204	0.0583	7.219	57.225	0.314	9.4022	0	0.4465	24.03	0.023	0.222	99.395	5.5858	19	99.955
Zulu-1 -9	0.042	0.385	0.0153	0	6.093	58.537	0.2588	10.513	0.05	0.34	23.319	0.073	0.156	99.783	6.7934	17.21	100.46
Zulu-1 -10	0.018	0.176	0	0	11.63	55.035	0.2925	11.075	0.015	0.3293	21.185	0.068	0.195	100.02	4.5438	17.1	100.47
Zulu-1 -11	0.054	2.606	0.0393	0.012	5.284	56.953	0.5159	10.946	0.024	0.2239	23.096	0.206	0.103	100.06	4.5758	18.98	100.52
Zulu-1 -14	0.033	0.017	0.0064	0	11.51	53.998	0.2951	10.089	0.026	0.4219	22.568	0.128	0.157	99.248	4.9626	18.1	99.745
Zulu-1 -15	0.027	1.144	0	0	2.242	59.454	0.2219	8.3501	0.021	0.2672	27.564	0.059	0.139	99.49	7.7838	20.56	100.27
Zulu-1 -16	0.039	0.157	0.0089	0	7.213	56.71	0.258	9.9544	0.011	0.3885	24.019	0.076	0.13	98.964	6.9342	17.78	99.659
Zulu-1 -18	0.025	0.028	0.0217	0	8.611	54.835	0.1407	7.7145	0.027	0.223	27.498	0.096	0.19	99.41	6.8462	21.34	100.1
Zulu-1 -19	0.039	2.822	0.0252	0.0013	2.55	53.375	0.3196	7.5348	0.021	0.2618	32.273	0.151	0.108	99.481	9.7098	23.54	100.45
Zulu-1 -20	0.02	0.105	0.0038	0	8.518	57.294	0.2864	10.537	0.046	0.3622	21.705	0.1	0.138	99.115	5.1923	17.03	99.635
Zulu-1 -21	0.058	1.214	0.0253	0.002	4.614	52.782	0.2658	6.9402	0.058	0.362	32.626	0.104	0.352	99.402	10.771	22.93	100.48
Zulu-1 -25	0.008	1.848	0.0516	0	1.215	61.233	0.403	9.2793	0.015	0.4262	24.542	0.171	0.095	99.287	5.5023	19.59	99.838
Zulu-1 -27	0.008	2.903	0	0	1.725	56.778	0.4311	8.9964	0.033	0.4087	28.456	0.158	0.168	100.06	7.972	21.28	100.86
Zulu-1 -31	0.023	3.666	0.0164	0	1.561	52.114	0.5615	8.6568	0.006	0.3172	32.204	0.149	0.079	99.353	10.528	22.73	100.41
Zulu-1 -35	0.04	0.168	0.0103	0	11.45	56.215	0.2195	11.598	0.018	0.3352	19.264	0.093	0.096	99.501	3.5617	16.06	99.858
Zulu-1 -37	0.047	0.165	0.0154	0	10.49	56.115	0.3062	10.88	0.019	0.3443	21.099	0.082	0.163	99.728	4.3566	17.18	100.16
Zulu-1 -39	0.009	2.027	0	0	1.653	59.809	0.413	9.2262	0	0.2705	25.583	0.141	0.053	99.183	6.1043	20.09	99.795
Zulu-1 -40	0.043	0.182	0	0.044	9.853	57.238	0.1857	11.204	0	0.3211	20.468	0.112	0.061	99.711	4.394	16.51	100.15
Zulu-1 -41	0.042	1.018	0	0	5.109	55.105	0.2931	8.9437	0.021	0.3472	27.522	0.148	0.1	98.65	8.6554	19.73	99.517
Zulu-1 -42	0.012	0.061	0	0	11.09	56.04	0.3709	11.061	0	0.2448	21.011	0.058	0.131	100.08	4.2019	17.23	100.51
Zulu-1 -46	0.033	0.345	0	0	9.769	57.852	0.2022	11.496	0.035	0.1429	20.127	0.091	0.075	100.17	4.0517	16.48	100.57
Zulu-1 -53	0.05	2.826	0	0.0298	1.34	54.617	0.2592	7.9613	0.073	0.4933	31.177	0.21	0.165	99.202	10.07	22.12	100.21
Zulu-1 -54	0.025	0.44	0.0178	0	5.968	61.112	0.1827	10.287	2E-04	0.2551	21.435	0.042	0.066	99.831	4.1823	17.67	100.25
Zulu-1 -55	0.035	2.416	0	0	3.687	56.159	0.2987	9.496	0.016	0.4077	26.374	0.144	0.056	99.089	7.054	20.03	99.796
Zulu-1 -66	0.021	0.642	0	0	8.692	55.33	0.2947	9.2867	0	0.321	24.557	0.049	0.151	99.346	5.4189	19.68	99.888
Zulu-1 -68	0	1.289	0.029	0	3.418	56.787	0.1637	8.2446	0	0.5291	29.137	0.057	0.068	99.724	9.1914	20.87	100.64
Zulu-1 -70	0.023	0.451	0.0064	0	9.172	56.576	0.1927	10.65	0	0.2872	21.919	0.073	0.091	99.441	4.9811	17.44	99.94
Zulu-1 -79	0.022	0.096	0	0.0691	9.813	57.369	0.4302	10.753	0.041	0.0073	21.018	0.052	0.24	99.912	3.6871	17.7	100.28

Zulu-1 Ilmenite

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
Zulu-1 -1	core	0.015	52.155	0.1679	0.0246	0.039	2.1044	0.0754	11.634	0	0.281	32.031	0.144	0.088	98.759	6.7	26	99.43	52.2431	41.6807	6.07617	100
Zulu-1 -2	core	0.006	52.163	0.2795	0.0549	0.1412	2.4585	0	11.14	0.014	0.231	32.223	0.135	0	98.845	5.782	27.02	99.424	54.5635	40.1403	5.29611	100
Zulu-1 -3	core	0.004	52.98	0.2723	0.0374	0.1698	2.3475	0	11.599	0	0.463	31.594	0.094	0.085	99.644	5.481	26.66	100.19	53.5058	41.517	4.97718	100
Zulu-1 -4	core	0.014	52.551	0.1845	0.0174	0.0979	2.3263	0.2544	11.591	0.014	0.305	31.607	0.019	0	98.981	5.247	26.89	99.507	53.8627	41.395	4.7423	100
Zulu-1 -5	core	0.006	52.257	0.2475	0.0612	0.1168	2.2125	0.1534	11.075	0.037	0.291	32.719	0.062	0.106	99.344	6.001	27.32	99.945	54.8494	39.682	5.46861	100
Zulu-1 -6	core	0.033	50.232	0.2116	0	0.1242	4.2132	0.1533	10.68	0.043	0.389	32.808	0.083	0.032	99.003	7.462	26.09	99.75	53.8202	39.2551	6.92465	100
Zulu-1 -7	core	0.018	51.655	0.2686	0.0722	0.0633	2.1585	0.0667	10.893	0.057	0.319	33.068	0.108	0.056	98.802	6.793	26.96	99.483	54.4722	39.2934	6.23444	100
Zulu-1 -8	core	0.008	52.66	0.2302	0.0541	0.0845	2.3344	0	11.291	0.009	0.433	32.482	0.097	0	99.682	6.109	26.98	100.29	54.0764	40.3731	5.55047	100
Zulu-1 -9	core	0.023	52.44	0.2489	0.0155	0.1584	2.1623	0.0307	11.485	0.009	0.502	31.844	0.122	0	99.041	6.042	26.41	99.647	53.2345	41.2738	5.4917	100
Zulu-1 -10	core	0.011	48.359	0.5725	0.0464	0.0694	3.4818	0.0707	9.1655	0	0.333	36.601	0.153	0.098	98.961	10.27	27.36	99.99	56.5811	33.8177	9.60121	100
Zulu-1 -11	core	0.021	52.401	0.2044	0	0.1405	2.2836	0.1114	11.51	0	0.337	31.861	0.089	0	98.959	5.841	26.61	99.544	53.4851	41.2325	5.28235	100
Zulu-1 -12	core	0.011	52.398	0.2552	0.0387	0.0974	2.9412	0.1558	11.769	0.016	0.239	31.053	0.146	0	99.121	5.279	26.3	99.65	52.9385	42.2517	4.80977	100
Zulu-1 -13	core	0.022	51.614	0.2502	0.0245	0.143	2.5836	0.2194	11.116	0.007	0.362	32.442	0.129	0.042	98.955	6.351	26.73	99.592	54.0889	40.1092	5.8019	100
Zulu-1 -14	core	0.008	52.437	0.2231	0.0026	0.1634	2.3386	0	11.57	0.01	0.31	31.794	0.129	0.003	98.989	6.067	26.34	99.597	53.0036	41.5006	5.49573	100
Zulu-1 -15	core	0.022	52.332	0.2851	0.0181	0.1069	2.284	0.0733	11.58	0.011	0.308	32.039	0.08	0.098	99.237	6.272	26.4	99.866	52.9292	41.3979	5.67295	100
Zulu-1 -16	core	0.007	51.786	0.2676	0.0496	0.0394	2.7154	0.2358	11.435	0	0.329	31.986	0.213	0.013	99.077	6.269	26.35	99.705	53.1294	41.1437	5.72693	100
Zulu-1 -17	core	0.019	51.872	0.2368	0.04	0.0645	2.1087	0.0637	11.342	0.007	0.359	32.755	0.063	0.008	98.938	7.063	26.4	99.645	52.9856	40.6047	6.40971	100
Zulu-1 -18	core	0.024	51.466	0.2909	0.0638	0.0147	2.7728	0.3016	10.75	0.037	0.46	33.13	0.059	0	99.369	6.351	27.42	100.01	55.4024	38.7724	5.82514	100
Zulu-1 -19	core	0.003	52.517	0.1277	0	0.1628	2.0572	0.3431	11.982	0.024	0.353	31.106	0.105	0.037	98.818	5.635	26.03	99.383	52.1507	42.7707	5.07862	100
Zulu-1 -20	core	0.01	52.476	0.2528	0.0284	0.0559	2.3552	0.0234	11.416	0.033	0.345	31.645	0.183	0.066	98.889	5.651	26.56	99.455	53.6885	41.1503	5.16116	100
Zulu-1 -21	core	0.007	47.933	0.61	0.1122	0	3.2863	0.3418	8.8815	0	0.449	37.631	0.082	0.069	99.401	10.74	27.96	100.48	57.4032	32.5737	10.023	100
Zulu-1 -22	core	0	48.684	0.4442	0.0523	0.0637	2.9626	0.3546	9.1096	0.001	0.404	37.346	0.059	0.103	99.584	10.32	28.06	100.62	57.2931	33.1831	9.5238	100
Zulu-1 -23	core	0.013	52.391	0.2515	0.0432	0.0655	2.2381	0.2551	11.25	0.007	0.321	32.872	0.106	0.058	99.871	6.197	27.3	100.49	54.4069	40.0021	5.591	100
Zulu-1 -24	core	0.028	52.524	0.2368	0.0497	0.1057	2.3167	0	11.618	0	0.307	31.624	0.154	0.032	98.995	5.846	26.36	99.581	53.0022	41.6713	5.32641	100
Zulu-1 -25	core	0.04	52.57	0.241	0.0595	0.1551	2.2404	0	11.433	0.043	0.367	32.309	0.035	0.019	99.511	6.156	26.77	100.13	53.5757	40.8343	5.59	100
Zulu-1 -26	core	0.014	52.972	0.2503	0.0045	0.1156	2.1339	0	11.401	0.034	0.425	31.823	0.129	0	99.302	5.348	27.01	99.837	54.3071	40.8519	4.84098	100
Zulu-1 -27	core	0.026	51.971	0.2666	0.0961	0.0964	2.4453	0.1072	11.317	0.005	0.313	32.202	0.105	0.05	99	6.17	26.65	99.618	53.6442	40.6916	5.66424	100
Zulu-1 -28	core	0.009	48.333	0.4677	0.0239	0.0141	2.9802	0.2683	8.9624	0.013	0.259	37.463	0.045	0	98.838	10.38	28.13	99.877	57.6531	32.7561	9.59086	100
Zulu-1 -29	core	0	49.78	0.3765	0	0.0293	4.0254	0.0696	10.185	0.05	0.324	33.648	0.144	0.029	98.661	7.859	26.58	99.448	55.0676	37.6063	7.32612	100
Zulu-1 -30	core	0.024	52.271	0.2293	0	0.0501	2.2389	0	11.312	0.027	0.434	32.189	0.071	0.024	98.869	6.256	26.56	99.496	53.6205	40.6967	5.68277	100
Zulu-1 -31	core	0.02	51.28	0.342	0.069	0.0415	2.7223	0	10.825	0.035	0.346	33.35	0.07	0.008	99.108	7.287	26.79	99.838	54.2123	39.0975	6.69012	100
Zulu-1 -32	core	0.005	51.969	0.2913	0.0697	0.0772	2.3869	0.176	11.221	7E-04	0.364	32.807	0.096	0	99.464	6.542	26.92	100.12	53.9255	40.123	5.95152	100
Zulu-1 -33	core	0	52.348	0.2694	0.0743	0.1352	2.1323	0.1901	11.781	0	0.403	31.958	0.136	0.082	99.509	6.501	26.11	100.16	52.1175	41.9848	5.89768	100
Zulu-1 -34	core	0.014	52.18	0.3089	0.0827	0.165	2.2688	0.0049	11.351	0	0.448	32.535	0.105	0.005	99.468	6.652	26.55	100.13	53.2659	40.6634	6.07073	100
Zulu-1 -35	core	0.027	51.419	0.2171	0.0355	0.0365	2.2646	0.2325	11.054	0	0.371	32.589	0.087	0.045	98.378	6.547	26.7	99.034	54.0754	39.9303	5.99431	100
Zulu-1 -36	core	0.006	51.878	0.2208	0.0026	0.0172	2.3099	0.092	11.205	0.038	0.359	32.474	0.096	0.093	98.792	6.65	26.49	99.458	53.5693	40.3785	6.05224	100
Zulu-1 -37	core	0.017	52.052	0.3152	0.0336	0.0388	2.2142	0.0698	11.346	0.002	0.218	32.761	0.075	0	99.143	6.638	26.79	99.808	53.552	40.4508	5.99719	100
Zulu-1 -38	core	0.02	47.229	0.5719	0.0516	0	2.7006	0.3744	8.3533	0.007	0.549	38.731	0.04	0.013	98.64	11.66	28.24	99.809	58.3283	30.7852	10.8865	100
Zulu-1 -39	core	0.006	47.836	0.509	0.0749	0.001	3.5322	0.1208	8.618	0.016	0.456	37.12	0.041	0.153	98.484	10.36	27.8	99.522	58.0641	32.1331	9.8028	100
Zulu-1 -40	core	0	51.823	0.253	0	0.1192	2.0307	0.1527	11.148	0.054	0.378	33.125	0.11	0	99.194	7.149	26.69	99.91	53.627	39.9113	6.46167	100
Zulu-1 -41	core	0.011	52.497	0.2404	0.0658	0.0852	2.1882	0	11.087	0	0.277	33.102	0.082	0	99.635	6.328	27.41	100.27	54.7418	39.5203	5.73784	100
Zulu-1 -42	core	0.005	47.627	0.4819	0.062	0	2.7299	0.0197	8.3401	0	0.398	38.545	0.094	0	98.303	11.64	28.07	99.47	58.2162	30.8658	10.918	100
Zulu-1 -43	core	0.016	50.096	0.3335	0.0549	0.0224	3.4815	0.205	10.463	0.018	0.429	33.928	0.086	0.021	99.153	8.161	26.58	99.97	54.3113	38.1412	7.54751	100
Zulu-1 -44	core	0	52.41	0.2332	0.0917	0.1155	2.2477	0.0031	11.357	3E-04	0.366	32.084	0.148	0	99.056	5.989	26.7	99.656	53.7041	40.8032	5.4927	100
Zulu-1 -45	core	0.019	51.941	0.2272	0.0265	0.0718	2.4501	0.1458	11.527	0.015	0.4	32.021	0.086	0.061	98.99	6.556	26.12	99.647	52.6257	41.4104	5.96385	100
Zulu-1 -46	core	0.028	52.689	0.2173	0.0394	0.1236	2.2301	0.0221	11.756	0.007	0.34	31.565	0.222	0.013	99.253	5.982	26.18	99.853	52.5125	42.0584	5.42911	100
Zulu-1 -47	core	0.009	46.29	0.6427	0.0975	0.0552	3.1277	0.1866	7.7922	0	0.406	39.825	0.024	0.011	98.467	12.74	28.36	99.743	59.0182	28.9606	12.0212	100
Zulu-1 -48	core	0	48.306	0.5397	0.0639	0.0406	2.8481	0.2747	8.3762	0	0.368	38.225	0.054	0.14	99.236	10.23	29.02	100.26	59.7212	30.7567	9.52207	100
Zulu-1 -49	core	0.016	51.553	0.174	0	0.2343	3.5878	0.2443	12.164	0.023	0.331	30.629	0.136	0.085	99.179	6.585	24.7	99.838	50.0654	43.9306	6.00404	100
Zulu-1 -50	core	0.007	51.893	0.2547	0.0498	0.1047	2.3743	0.1291	11.173	0.029	0.336	32.541	0.105	0.061	99.056	6.444	26.74	99.702	53.9218	40.193	5.88515	100
Zulu-1 -51	core	0.008	52.093	0.2522	0	0.102	2.1727	0.2771	11.287	0	0.296	31.889	0.105	0.117	98.599	5.493	26.95	99.15	54.4027	40.608	4.98923	100
Zulu-1 -52	core	0.004	51.82	0.2793	0.0737	0.101	2.2598	0.1322	11.306	0	0.445	32.634	0.131	0.098	99.285	6.981	26.35	99.984	53.0156	40.6055	6.37887	100
Zulu-1 -53	core	0.023	50.994	0.3833	0.0433	0.0465	2.6899	0.08	10.73	0.011	0.427	33.437	0.047	0	98.91	7.329	26.84	99.645	54.449	38.8262	6.72479	100
Zulu-1 -54	core	0.031	52.148	0.2792	0.0588	0.0611	2.3155	0.1497	11.171	0	0.343	32.254	0.178	0.05	99.039	5.795	27.04	99.619	54.5103	40.1875	5.3022	100
Zulu-1 -55	core	0	51.863	0.3127	0.0549	0.0838	2.3526	0.0927	11.157	0	0.312	33.045	0.065	0.048	99.386	6.878	26.86	100.07	53.8398	39.9122	6.24806	100
Zulu-1 -56	core	0.014	52.09	0.2271	0.0381	0.0912	2.3073	0.1544	11.18	0.045	0.354	32.439	0.143	0.024	99.107	6.182	26.88	99.727	54.172	40.1915	5.63648	100
Zulu-1 -57	core	0.027	52.416	0.216	0.0401	0.0724	2.1989	0	11.639	0	0.334	31.6	0.058	0.019	98.619	5.918	26.27	99.212	52.8515	41.7617	5.38681	100
Zulu-1 -58	core	0.008	46.819	0.5018	0.0582	0.0051	2.9636	0.2996	8.1355	0	0.476	39.516	0.069	0	98.854	12.67	28.12	100.12	58.1441	30.0176	11.8383	100
Zulu-1 -59	core	0.012	52.339	0.2706	0.0297	0.0779	2.2379	0.0117	11.625	0.024	0.378	32.226	0.038	0.069	99.339	6.716	26.18	100.01	52.4211	41.5061	6.07278	100
Zulu-1 -60	core	0.003	51.988	0.2446	0.0388	0.0855	2.3584	0.0172	11.491	0.048	0.338	32.209	0.063	0	98.884	6.755	26.13	99.561	52.5956	41.2557	6.14874	100
Zulu-1 -61	core	0.019	52.388	0.2457	0.011	0	2.3572	0	11.282	0	0.376	32.532	0.086	0.085	99.381	6.411	26.76	100.02	53.7841	40.4111	5.80486	100
Zulu-1 -62	core	0.011	53.085	0.138	0.0311	0.2737	2.5365	0.0109	12.354	0.061	0.293	30.421	0.178	0.109	99.502	5.715	25.28	100.07	50.6646	44.1578	5.17767	100
Zulu-1 -63	core	0.008	51.252	0.3188	0	0.0478	2.7667	0.1704	10.827	0.005	0.337	33.215	0.119	0.019	99.084	6.974	26.94	99.783	54.5654	39.079	6.35554	100
Zulu-1 -64	core	0.015	51.327	0.3711	0.0698	0.0813	2.7649	0.0423	10.66	0.007	0.342	33.364	0.141	0	99.186	6.851	27.2	99.872	55.1296	38.5663	6.3041	100
Zulu-1 -65	core	0.022	52.172	0.2506	0.0542	0.1021	2.3776	0.1644	11.177	0.031	0.485	32.17	0.126	0.016	99.147	5.829	26.92	99.731	54.3817	40.2792	5.33909	100
Zulu-1 -66	core	0.019	52.933	0.1912	0	0.178	2.2126	0	11.577	0.042	0.357	31.433	0.127	0.072	99.141	5.372	26.6	99.679	53.5785	41.5536	4.86788	100
Zulu-1 -67	core	0.006	52.182	0.2929	0.0284	0.068	2.4308	0	11.289	0.038	0.436	32.49	0.131	0.008	99.399	6.628	26.53	100.06	53.4265	40.545	6.02847	100
Zulu-1 -68	core	0.005	52.539	0.2645	0.0485	0.1199	2.2153	0	11.338	0	0.256	32.368	0.068	0.045	99.268	5.966	27	99.866	54.0739	40.5126	5.41354	100
Zulu-1 -69	core	0.02	53.001	0.1541	0.0194	0.0793	2.2401	0.0754	11.972	0.007	0.352	31.816	0.208	0	99.945	6.371	26.08	100.58	51.8549	42.4316	5.71345	100
Zulu-1 -70	core	0.015	51.742	0.3366	0.0711	0.0901	2.1223	0.1029	10.978	0	0.432	33.075	0.135	0.088	99.187	6.847	26.91	99.873	54.2411	39.4929	6.26603	100
Zulu-1 -71	core	0.014	48.255	0.6026	0.0271	0.0245	3.2889	0.0978	8.9808	0.007	0.503	36.823	0.077	0	98.7	10.21	27.64	99.723	57.2741	33.1854	9.54055	100
Zulu-1 -72	core	0.026	52.11	0.2275	0.055	0.0631	2.1498	0.1346	11.528	0.014	0.315	31.806	0.116	0	98.545	6.015	26.39	99.148	53.1133	41.3971	5.48961	100
Zulu-1 -73	core	0.01	52.873	0.2547	0.0627	0.1142	2.3205	0	11.733	0.024	0.349	32.002	0.109	0.005	99.856	6.146	26.47	100.47	52.7291	41.7134	5.55753	100
Zulu-1 -74	core	0.004	50.415	0.2731	0.0246	0.0822	4.4963	0.0124	10.692	0.014	0.422	33.035	0.155	0.069	99.695	7.859	25.96	100.48	53.4517	39.2479	7.30041	100
Zulu-1 -75	core	0.004	51.986	0.2237	0	0.0948	2.3785	0	11.384	0.024	0.419	32.834	0.117	0.021	99.486	7.458	26.12	100.23	52.4942	40.7629	6.7429	100
Zulu-1 -76	core	0	51.366	0.4294	0.0525	0.0679	2.4976	0.2222	12.541	0	0.266	31.434	0.148	0.003	99.027	7.954	24.28	99.824	48.3058	44.5301	7.16415	100
Zulu-1 -77	rim	0.015	51.612	0.3971	0.0499	0.096	2.6828	0.0379	12.266	0.048	0.298	31.376	0.231	0.008	99.117	7.639	24.5	99.883	49.1553	43.908	6.93671	100
Zulu-1 -78	core	0.023	50.652	0.3349	0	0.0503	2.6291	0.255	10.54	0.05	0.457	33.896	0.098	0.045	99.028	7.776	26.9	99.807	54.6945	38.1915	7.11402	100
Zulu-1 -79	rim	0	47.377	0.5746	0.0607	0.0314	2.9572	0.1215	8.1083	0	0.403	39.246	0.061	0.074	99.014	11.97	28.48	100.21	58.8852	29.9213	11.1935	100
Zulu-1 -80	core	0.008	47.028	0.5503	0.0272	0.068	2.938	0.3252	8.0126	0.025	0.448	39.685	0	0	99.115	12.25	28.66	100.34	59.1308	29.4746	11.3946	100

Zulu-1 Ilmenite

Sample	c/r	SiO2	TiO2	Nb2O5	Ta2O5	Al2O3	Cr2O3	V2O5	MgO	CaO	MnO	FeO*	NiO	ZnO	Total	Fe2O3	FeO	Total	ilmenite	geikelite	hematite	Total
Zulu-1 -81	rim	0.019	50.88	0.3228	0.0162	0.0491	2.6895	0.2374	10.954	0.034	0.337	33.331	0.072	0	98.942	7.552	26.54	99.698	53.6425	39.4762	6.88131	100
Zulu-1 -82	core	8E-04	50.778	0.2805	0.0142	0.0684	2.7241	0.3846	10.62	0	0.375	33.397	0.138	0.048	98.827	6.993	27.1	99.527	55.1053	38.4868	6.40791	100
Zulu-1 -83	rim	0.024	52.586	0.2349	0.0408	0.1542	2.3055	0.1053	11.708	0.02	0.369	32.269	0.126	0	99.942	6.546	26.38	100.6	52.5221	41.5821	5.89584	100
Zulu-1 -84	core	0.043	52.061	0.246	0.0188	0.0965	2.3377	0.0746	11.486	0.023	0.253	32.159	0.143	0	98.941	6.429	26.37	99.585	53.0118	41.1591	5.82911	100
Zulu-1 -85	rim	0.016	53.069	0.2586	0.0518	0.1617	2.589	0	12.423	0.071	0.345	30.201	0.114	0.013	99.312	5.384	25.36	99.851	50.7476	44.364	4.88835	100
Zulu-1 -86	core	0.011	53.197	0.2621	0	0.1524	2.5457	0	11.714	0.032	0.333	30.954	0.133	0.088	99.422	4.753	26.68	99.898	53.6878	42.0086	4.30364	100
Zulu-1 -8*	core	0.024	51.998	0.2745	0	0	2.2185	0.2758	11.297	0.014	0.363	32.428	0.146	0.035	99.073	6.218	26.83	99.696	53.9235	40.4544	5.62206	100
Zulu-1 -12*	core	0.024	52.468	0.2052	0.046	0.1548	2.3643	0.0585	11.753	0	0.37	32.06	0.1	0	99.604	6.579	26.14	100.26	52.1905	41.8631	5.94637	100
Zulu-1 -13*	core	0.027	52.533	0.2533	0	0.0023	2.1314	0.1544	11.235	0	0.336	32.148	0.171	0.021	99.012	5.448	27.25	99.558	54.8018	40.2679	4.93038	100
Zulu-1 -17*	core	0.015	52.468	0.2474	0.0699	0.1087	2.1805	0	11.486	0.046	0.344	32.255	0.101	0.048	99.369	6.398	26.5	100.01	53.0947	41.0822	5.8231	100
Zulu-1 -22*	core	0.016	44.502	0.6942	0.098	0	2.7454	0.5585	8.8396	0	0.305	40.39	0.049	0	98.197	16.41	25.63	99.841	52.458	32.3267	15.2153	100
Zulu-1 -23*	core	0.015	49.598	0.3727	0.0324	0.0128	2.7042	0.0216	9.7786	0.025	0.345	36.213	0.092	0.08	99.289	10.11	27.11	100.3	55.2007	35.506	9.29327	100
Zulu-1 -24*	core	0.043	52.497	0.2164	0.0362	0.1135	2.2526	0.0141	11.811	0	0.444	32.076	0.072	0	99.576	6.781	25.97	100.25	51.8386	42.0434	6.11797	100
Zulu-1 -28*	core	0.014	55.813	0.1746	0.024	0	3.3636	0.2034	15.849	0.041	0.366	24.184	0.088	0	100.12	2.448	21.98	100.36	42.8034	55.0352	2.1614	100
Zulu-1 -29*	core	0.003	52.337	0.2028	0	0.1479	2.0081	0.1668	11.493	0	0.296	31.875	0.159	0	98.689	5.844	26.62	99.274	53.5266	41.1862	5.28719	100
Zulu-1 -30*	core	0.006	48.664	0.2964	0.0278	0	2.2306	0.1368	8.2281	0	0.494	39.226	0.04	0.04	99.388	11.27	29.09	100.52	59.5553	30.04	10.4047	100
Zulu-1 -32*	core	0.026	45.169	0.7399	0.0609	0.0583	2.7775	0.35	7.405	0.007	0.392	41.642	0.09	0	98.718	14.77	28.35	100.2	58.7756	27.3917	13.8327	100
Zulu-1 -33*	core	0.004	49.366	0.3873	0.0673	0.0363	2.9443	0.2127	9.1465	0.007	0.275	36.868	0.063	0	99.377	9.246	28.55	100.3	58.1903	33.2733	8.53646	100
Zulu-1 -34*	core	0.008	47.318	0.515	0.022	0.0263	3.0785	0.1132	8.1536	0.009	0.339	39.368	0.042	0.005	98.997	12.21	28.38	100.22	58.614	30.0214	11.3646	100
Zulu-1 -36*	core	0.044	48.174	0.5039	0.0414	0	3.0699	0.3234	8.68	0.006	0.422	37.946	0.023	0.016	99.249	10.48	28.52	100.3	58.5204	31.7701	9.70954	100
Zulu-1 -38*	core	0.046	51.971	0.2663	0	0.0535	2.3518	0.0689	11.461	0.008	0.364	32.539	0.136	0	99.266	6.986	26.25	99.966	52.6968	40.9941	6.30909	100
Zulu-1 -43*	core	0.026	52.223	0.193	0	0.1601	2.4427	0.1234	11.72	0.002	0.288	31.803	0.102	0.011	99.095	6.328	26.11	99.728	52.3855	41.9025	5.71197	100
Zulu-1 -44*	core	0.031	52.546	0.2427	0.0603	0.1059	2.1708	0.0825	11.62	0	0.416	32.554	0.102	0	99.93	6.733	26.5	100.6	52.6905	41.2376	6.07193	100
Zulu-1 -45*	core	0.027	45.359	0.6493	0.0745	0.027	2.9203	0.3469	7.3486	0.021	0.31	41.274	0.061	0	98.418	14.06	28.63	99.827	59.509	27.2699	13.2211	100
Zulu-1 -47*	core	0.009	48.548	0.5069	0.0647	0.065	3.975	0.2801	9.5039	0.04	0.329	35.182	0.091	0	98.594	8.769	27.29	99.472	56.5916	35.1719	8.23651	100
Zulu-1 -48*	core	0.022	52.24	0.2227	0.0492	0.1567	2.2965	0.1409	11.264	0.011	0.321	32.48	0.158	0	99.362	6.163	26.94	99.979	54.0614	40.335	5.60362	100
Zulu-1 -49*	core	0.014	49.995	0.3568	0.0239	0.0233	4.0755	0.1466	10.578	0.051	0.346	33.036	0.117	0.048	98.81	7.612	26.19	99.573	54.0133	38.9028	7.08392	100
Zulu-1 -50*	core	0.022	51.036	0.4788	0.0026	0.07	2.5568	0.0575	11.799	0.006	0.375	32.936	0.261	0	99.6	8.967	24.87	100.5	49.8053	42.1126	8.08204	100
Zulu-1 -51*	core	0.005	44.239	0.7742	0.1027	0.0122	2.728	0.2581	7.6189	0.038	0.305	42.383	0.084	0	98.548	17	27.08	100.25	55.9643	28.1225	15.9133	100
Zulu-1 -52*	core	0.007	51.446	0.3018	0.0175	0	2.8087	0	10.255	0	0.409	34.276	0.126	0.061	99.709	7.258	27.75	100.44	56.2784	37.0841	6.63747	100
Zulu-1 -56*	core	0.026	52.784	0.2192	0.013	0.1527	2.4326	0.1162	12.162	0.019	0.347	30.997	0.056	0	99.323	5.749	25.82	99.899	51.5496	43.2774	5.17305	100
Zulu-1 -57*	core	0.047	52.21	0.2538	0.0608	0.0618	2.166	0.16	11.092	0.044	0.376	32.386	0.082	0.011	98.949	5.671	27.28	99.518	54.9483	39.8654	5.18627	100
Zulu-1 -58*	core	0.024	49.512	0.4236	0.0718	0.042	2.7609	0.1067	9.2598	0	0.257	36.718	0.148	0	99.324	9.331	28.32	100.26	57.707	33.6771	8.61589	100
Zulu-1 -59*	core	0.026	50.395	0.3158	0.0382	0.0187	4.4993	0.0115	10.823	0	0.291	32.464	0.093	0.037	99.012	7.152	26.03	99.728	53.5928	39.7499	6.6573	100
Zulu-1 -60*	core	0.01	52.637	0.2091	0.0097	0.0639	2.0777	0.3659	11.803	0.066	0.356	32.067	0.092	0.037	99.796	6.125	26.56	100.41	52.7389	41.781	5.48006	100
Zulu-1 -61*	core	0.029	52.41	0.2377	0.0421	0.0831	2.2673	0	11.562	0.061	0.29	32.247	0.03	0.008	99.267	6.455	26.44	99.913	52.8938	41.2621	5.84408	100
Zulu-1 -62*	core	0.024	52.366	0.2429	0.046	0.1391	2.2001	0	11.747	0.008	0.278	31.779	0.095	0	98.924	6.316	26.1	99.557	52.2831	41.9874	5.72948	100
Zulu-1 -63*	core	0.018	51.968	0.2166	0.0376	0.0906	2.2245	0.1889	11.462	0.031	0.374	32.133	0.133	0.037	98.914	6.476	26.31	99.563	52.9509	41.1542	5.89485	100
Zulu-1 -65*	core	9E-04	46.448	0.5537	0.0123	0.0207	2.7395	0.2467	7.6919	0	0.464	40.247	0.04	0	98.464	13	28.55	99.766	59.3382	28.4958	12.166	100
Zulu-1 -67*	core	0.016	50.951	0.3185	0.0447	0.0902	2.4963	0.1256	10.726	0	0.393	33.561	0.121	0.069	98.912	7.603	26.72	99.674	54.2048	38.8188	6.97645	100
Zulu-1 -69*	core	7E-04	47.329	0.6444	0.0803	0.0733	2.6444	0.1778	8.1259	0.01	0.381	39.168	0.099	0.037	98.771	11.76	28.58	99.949	59.0344	29.9614	11.0042	100
Zulu-1 -71*	core	0.024	50.181	0.3419	0.1062	0.0087	2.705	0.0845	9.9901	0.04	0.338	35.297	0.04	0.011	99.167	8.683	27.48	100.04	55.7677	36.2148	8.01757	100
Zulu-1 -72*	core	0.008	52.442	0.2888	0.0415	0.1949	2.3792	0	11.554	0.009	0.323	32.298	0.112	0.048	99.697	6.522	26.43	100.35	52.8698	41.2271	5.90317	100
Zulu-1 -73*	core	0	44.883	1.0082	0.1004	0.0373	1.8292	0.2166	6.8861	0.007	0.334	43.001	0.021	0	98.324	15.31	29.22	99.858	60.3024	25.3798	14.3178	100
Zulu-1 -74*	core	0.019	52.273	0.2067	0.0868	0.0964	2.1954	0.2042	11.464	0	0.52	31.516	0.056	0	98.636	5.438	26.62	99.181	53.7024	41.2951	5.00251	100
Zulu-1 -75*	core	0.028	49.113	0.4341	0.0835	0.0138	2.651	0.2232	9.1846	0.05	0.344	35.867	0.066	0	98.059	8.486	28.23	98.909	58.2296	33.8239	7.94651	100
Zulu-1 -76*	core	0	49.238	0.5357	0.0408	0.0558	2.6458	0.1035	9.5536	0.014	0.405	36.037	0.099	0	98.728	9.488	27.5	99.679	56.3208	34.9011	8.7781	100
Zulu-1 -77*	core	0.003	52.41	0.1706	0.0376	0.1009	2.3936	0.0811	11.576	0.031	0.396	31.887	0.102	0	99.188	6.206	26.3	99.81	52.8615	41.4968	5.64176	100
Zulu-1 -78*	core	0	45.258	0.8685	0.0745	0	2.2253	0.1192	6.5975	0.011	0.3	43.432	0.048	0.016	98.95	15.22	29.74	100.47	61.4475	24.3321	14.2203	100
Zulu-1 -80*	core	0.017	52.19	0.1794	0.0195	0.0931	2.3322	0	11.439	0.003	0.305	31.858	0.128	0	98.564	6.135	26.34	99.179	53.2093	41.1994	5.59126	100
Zulu-1 -81*	core	0.031	52.341	0.2826	0.046	0.0717	2.4579	0	11.396	0.032	0.176	32.447	0.057	0.024	99.363	6.234	26.84	99.988	53.6848	40.6683	5.64685	100
Zulu-1 -82*	core	0.042	51.674	0.2204	0.0499	0.0132	2.1631	0.2271	11.124	0.045	0.482	32.375	0.105	0	98.521	6.333	26.68	99.155	54.0098	40.1821	5.80811	100
Zulu-1 -83*	core	0.034	52.406	0.1956	0.0396	0.1228	2.0334	0.1687	11.633	0.026	0.215	32.033	0.156	0	99.064	6.105	26.54	99.675	53.0233	41.4578	5.51892	100
Zulu-1 -84*	core	0.01	49.862	0.4648	0.0545	0.1054	2.8375	0	10.641	0.013	0.36	34.002	0.149	0.106	98.604	9.105	25.81	99.516	52.7617	38.816	8.42231	100
Zulu-1 -85*	core	0.004	51.392	0.3316	0.061	0.036	2.7187	0.013	11.516	0	0.224	32.543	0.102	0.008	98.949	7.511	25.78	99.701	51.8364	41.3197	6.84393	100
Zulu-1 -86*	core	0.035	52.301	0.2331	0	0.1232	2.3426	0	11.651	0.008	0.307	31.697	0.107	0.064	98.868	6.24	26.08	99.494	52.5322	41.814	5.65383	100

* These ilmenite grains were mixed in with the Zulu-1 chromite analyses

Zulu-1 Pyroxene

Sample	SiO2	TiO2	Al2O3	Cr2O3	MgO	CaO	MnO	FeO	NiO	Na2O	K2O	Total
Zulu-1 -2	54.803	0.2081	1.5129	1.688	16.029	20.41	0.1068	2.952	0.059	1.7933	0.024	99.585
Zulu-1 -3	54.839	0.1897	1.2826	1.1264	16.454	20.84	0.0898	3.091	0	1.5136	0	99.426
Zulu-1 -4	54.785	0.2872	2.5625	2.0329	15.657	18.38	0.1364	3.337	0.053	2.541	0	99.776
Zulu-1 -5	54.849	0.2526	2.5729	2.0388	15.532	18.4	0.0995	3.403	0.077	2.5015	0	99.73
Zulu-1 -6	54.85	0.2074	0.8416	1.8165	16.202	21.54	0.0642	2.714	0.022	1.4987	0	99.752
Zulu-1 -8	53.075	0.3692	4.0972	0.3602	15.431	22.64	0.0713	2.624	0.01	1.0903	0.02	99.784
Zulu-1 -9	54.579	0.1334	2.5597	4.1135	14.195	17.91	0.0653	2.286	0.034	3.3582	0.024	99.255
Zulu-1 -10	54.459	0.1825	1.5703	2.7179	15.617	19.65	0.0768	2.822	0.001	2.0957	0.034	99.227
Zulu-1 -11	54.913	0.3142	2.4752	2.0322	15.595	18.38	0.1236	3.359	0.038	2.5056	0.01	99.744
Zulu-1 -12	55.193	0.0207	4.0017	3.2171	13.832	17.33	0.0924	2.2	0	3.7914	0	99.68
Zulu-1 -13	54.701	0.2117	3.2183	2.4856	15.085	17.3	0.1108	3.434	0.041	2.9251	0.013	99.523
Zulu-1 -14	54.63	0.107	2.5384	4.202	14.114	17.9	0.0966	2.431	0.05	3.3892	0.007	99.462
Zulu-1 -15	54.769	0.1224	2.5775	4.0089	14.174	17.99	0.0739	2.283	0	3.2752	0.026	99.297
Zulu-1 -16	54.745	0.1286	3.9606	2.1253	14.501	20.2	0.0812	1.628	0.059	2.5885	0	100.01
Zulu-1 -17	54.675	0.2483	1.533	2.096	16.028	20.04	0.1593	2.941	0.062	1.8557	0.028	99.671

Zulu-1 Olivine

Sample	SiO_2	TiO_2	Al_2O_3	Cr_2O_3	MgO	CaO	MnO	FeO	NiO	Na_2O	K_2O	Total
Zulu-1 -1	41.068	0.0311	0.0251	0.0032	49.693	0.033	0.1681	8.463	0.331	0.01147	0.013	99.838
Zulu-1 -2	40.688	0.0557	0.0209	0	48.133	0.057	0.1547	10.9	0.264	0.00516	0	100.28
Zulu-1 -3	41.207	0.0034	0	0	50.575	0	0.1178	7.969	0.429	0.00937	0.002	100.31
Zulu-1 -5	40.922	0.0648	0.0073	0.0103	49.25	0.017	0.1507	9.339	0.336	0.01411	0	100.11
Zulu-1 -6	40.183	0.0009	0.0055	0.0106	45.533	0.006	0.2232	13.93	0.062	0.00326	0.009	99.969
Zulu-1 -7	40.491	0.016	0	0.004	46.575	0	0.2693	12.86	0.168	0.00884	0.002	100.4
Zulu-1 -8	41.067	0.0214	0	0.0001	49.419	0.045	0.0698	8.915	0.346	0.01105	0	99.895
Zulu-1 -9	40.547	0.0264	0	0.0153	47.133	0.054	0.1463	12.08	0.15	0.00147	0	100.15
Zulu-1 -10	40.745	0	0	0.0266	48.092	0.06	0.084	10.73	0.27	0	0	100.01
Zulu-1 -11	40.187	0.0212	0	0.0253	46.423	7E-04	0.2074	13.28	0.13	0	0.002	100.27
Zulu-1 -12	40.782	0.0403	0.0075	0	48.862	0	0.1269	10.15	0.252	0.00947	0.024	100.26
Zulu-1 -13	40.905	0	0	0.026	50.375	0.005	0.1589	7.583	0.363	0.014	0.01	99.44
Zulu-1 -14	40.92	0.0461	0	0.0273	48.782	0	0.1243	9.846	0.332	0.00316	0.011	100.09
Zulu-1 -15	40.817	0	0	0.0375	49.913	0	0.1174	8.492	0.386	0	0.007	99.77
Zulu-1 -16	41.418	0.0272	0	0.0325	50.267	0	0.1232	8.455	0.307	0.01011	0	100.64
Zulu-1 -17	40.689	0.0314	0	0.0091	48.817	0.032	0.1473	9.887	0.295	0.01011	0	99.918
Zulu-1 -18	41.134	0.0272	0.0525	0.0431	48.975	0.02	0.0945	9.793	0.327	0	0.046	100.51
Zulu-1 -19	41.559	0.0407	0.0121	0.0248	50.38	0	0.1578	8.139	0.374	0	0.016	100.7
Zulu-1 -20	40.974	0	0.0036	0.0198	49.182	0.004	0.1418	9.286	0.353	0.00989	0.038	100.01
Zulu-1 -21	41.515	0.0086	0.0006	0.0285	50.748	0	0.0977	7.554	0.328	0	0	100.28
Zulu-1 -22	40.639	0.0248	0	0	48.552	0.008	0.169	10.1	0.341	0.01358	0.007	99.85
Zulu-1 -23	41.047	0.0191	0	0.0347	49.986	0.011	0.1034	8.444	0.476	0	0	100.12
Zulu-1 -24	41.527	0	0.0177	0.0073	50.771	0.01	0.1337	7.789	0.371	0.00211	0	100.63

Metric Conversion Table

Conversion from SI to Imperial			Conversion from Imperial to SI		
SI Unit	*Multiplied by*	*Gives*	*Imperial Unit*	*Multiplied by*	*Gives*
			LENGTH		
1 mm	0.039 37	inches	1 inch	**25.4**	mm
1 cm	0.393 70	inches	1 inch	**2.54**	cm
1 m	3.280 84	feet	1 foot	**0.304 8**	m
1 m	0.049 709	chains	1 chain	20.116 8	m
1 km	0.621 371	miles (statute)	1 mile (statute)	**1.609 344**	km
			AREA		
1 cm^2	0.155 0	square inches	1 square inch	**6.451 6**	cm^2
1 m^2	10.763 9	square feet	1 square foot	**0.092 903 04**	m^2
1 km^2	0.386 10	square miles	1 square mile	2.589 988	km^2
1 ha	2.471 054	acres	1 acre	0.404 685 6	ha
			VOLUME		
1 cm^3	0.061 023	cubic inches	1 cubic inch	**16.387 064**	cm^3
1 m^3	35.314 7	cubic feet	1 cubic foot	0.028 316 85	m^3
1 m^3	1.307 951	cubic yards	1 cubic yard	0.764 554 86	m^3
			CAPACITY		
1 L	1.759 755	pints	1 pint	0.568 261	L
1 L	0.879 877	quarts	1 quart	1.136 522	L
1 L	0.219 969	gallons	1 gallon	**4.546 090**	L
			MASS		
1 g	0.035 273 962	ounces (avdp)	1 ounce (avdp)	28.349 523	g
1 g	0.032 150 747	ounces (troy)	1 ounce (troy)	**31.103 476 8**	g
1 kg	2.204 622 6	pounds (avdp)	1 pound (avdp)	**0.453 592 37**	kg
1 kg	0.001 102 3	tons (short)	1 ton (short)	**907.184 74**	kg
1 t	1.102 311 3	tons (short)	1 ton (short)	**0.907 184 74**	t
1 kg	0.000 984 21	tons (long)	1 ton (long)	**1016.046 908 8**	kg
1 t	0.984 206 5	tons (long)	1 ton (long)	**1.016 046 90**	t
			CONCENTRATION		
1 g/t	0.029 166 6	ounce (troy)/ ton (short)	1 ounce (troy)/ ton (short)	34.285 714 2	g/t
1 g/t	0.583 333 33	pennyweights/ ton (short)	1 pennyweight/ ton (short)	1.714 285 7	g/t

OTHER USEFUL CONVERSION FACTORS

	Multiplied by	
1 ounce (troy) per ton (short)	31.103 477	grams per ton (short)
1 gram per ton (short)	0.032 151	ounces (troy) per ton (short)
1 ounce (troy) per ton (short)	20.0	pennyweights per ton (short)
1 pennyweight per ton (short)	0.05	ounces (troy) per ton (short)

Note: Conversion factors which are in bold type are exact. The conversion factors have been taken from or have been derived from factors given in the Metric Practice Guide for the Canadian Mining and Metallurgical Industries, published by the Mining Association of Canada in co-operation with the Coal Association of Canada.

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